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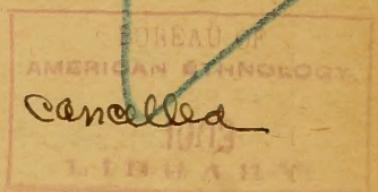
MINERALOGY 3

LIST OF

## NEW YORK MINERAL LOCALITIES

BY

H. P. WHITLOCK C. E.



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# New York State Museum

FREDERICK J. H. MERRILL Director

Bulletin 70

MINERALOGY 3

LIST OF

## NEW YORK MINERAL LOCALITIES

### PREFACE

The lack of systematic classification and of accurate geographic and geologic location of the many mineral localities of New York State, which so materially hampers a detailed study of any mineral collection, has suggested the preparation of a list of the recorded localities for mineral specimens in New York State, which is offered to the public in the following bulletin. The kindly reception accorded to the previous publications of this division of the New York State Museum has led to the hope that the present bulletin will meet a material want not only as a curatorial aid to museum workers in mineralogy in furthering a more accurate labeling of New York specimens but also as a guide to collectors, teachers and students in their field excursions.

The data have been largely compiled from the mineralogic and geologic publications given in the bibliography and have, in a number of cases, been added to, checked and modified by field notes and by the study of specimens from the collections mentioned in the list of authorities. Such a list must, from its character, be incomplete in many points and the author would gladly welcome any information which would render a subsequent edition more comprehensive and accurate.

The author is indebted to Dr F. J. H. Merrill, state geologist, for many valuable suggestions regarding the general character of the work and for much of the geographic and geologic informa-

tion embodied in the text. Acknowledgment is also tendered to the gentlemen whose names appear in the list of authorities for local information.

#### RELATIONS OF MINERAL DEPOSITS TO ROCKS

By far the greater part of the crystallized minerals of New York State occur in igneous and metamorphic rocks, or grouping these two divisions in a rather broader term, in crystalline rocks. The areas covered by these embrace two important sections of the State; the northern section including the Adirondack region and extending over St Lawrence, Jefferson and Lewis counties on the west and the southeastern section including New York, Westchester, Putnam and portions of Orange, Rockland, Richmond and Dutchess counties. The area of Silurian limestones, extending from west to east across the State just south of Lake Ontario and trending to the south along the west shore of the Hudson, affords many localities for secondary minerals notably calcite, dolomite, celestite, barite, quartz etc.

#### Igneous rocks

**Granites and pegmatites.** The component and accessory minerals of granite are commonly found in independent well formed individuals in cavities or vugs where the open space admits of free development of crystals formed by the separation of the mineral constituents from the fused rock magma in the process of its solidification. Pegmatite occurring in dikes and veins is characterized by the same genetic series of minerals found in granite but commonly in rather larger individuals corresponding to the coarser structure of the rock.

#### COMMON MINERALS FORMING AND OCCURRING IN GRANITE AND PEGMATITE

pyrite	microcline	epidote
marcasite	oligoclase	allanite
quartz	spodumene	tourmalin
corundum	amphibole	muscovite
chrysoberyl	beryl	biotite
rutile	garnet	titanite
orthoclase	zircon	xenotime
albite	topaz	apatite

**Gabbros, diorites and other basic igneous rocks.** Rocks of this series have for their chief feldspar constituents the plagioclases; both orthorhombic and monoclinic pyroxenes occur as component minerals. The formation of individual crystals takes place as the rock grades from finer to coarser structure and gives rise to strings or zones of crystallized minerals rather than pockets and cavities as is the case with granite.

COMMON MINERALS FOUND IN BASIC IGNEOUS ROCKS

magnetite	labradorite	garnet
ilmenite	enstatite	biotite
spinel	hypersthene	chrysolite
albite	pyroxene	titanite
<b>anorthite</b>		

**Metamorphic rocks**

**Gneisses.** Typical gneiss differs but little in mineralogic composition from typical granite. The mineral constituents are, however, to be found in larger and better formed individuals along zones of contact with crystalline limestone and local areas of magmatic segregation.

COMMON MINERALS FOUND IN GNEISS

graphite	hematite	sillimanite
chalcopyrite	orthoclase	cyanite
pyrite	albite	allanite
marcasite	amphibole	tourmalin
quartz	pyroxene	staurolite
corundum	garnet	muscovite
spinel	vesuvianite	biotite
magnetite	zircon	monazite
rutile	andalusite	apatite

**Crystalline limestones.** The crystalline limestones are prolific in accessory minerals which occur disseminated through the mass of the rock, in pockets or vugs or in zones of contact between the limestone and an adjacent igneous intrusive rock.

## COMMON MINERALS FOUND IN CRYSTALLINE LIMESTONES

graphite	dolomite	garnet
sphalerite	siderite	titanite
pyrite	pyroxene	tourmalin
marcasite	wollastonite	chrysolite
quartz	amphibole	humite group
corundum	wernerite	muscovite
spinel	vesuvianite	phlogopite
rutile	zircon	clinochlore
brucite	danburite	talc
calcite	epidote	apatite

**Crystalline schists.** A characteristic series of minerals, for the most part silicates, is found in micaceous, hornblendic and argillaceous schists. They occur embedded and disseminated through the mass of the rock and reach their highest development along the contact portion of the rock mass.

## COMMON MINERALS FOUND IN CRYSTALLINE SCHISTS

quartz	cyanite	biotite
chrysoberyl	andalusite	iolite
amphibole	sillimanite	tourmalin
garnet	staurolite	beryl
zircon	muscovite	

**Serpentines and talc.** The minerals occurring in serpentine are in some cases the unaltered species from which the serpentine was derived, in other cases secondary minerals resulting from a further alteration of the serpentine. They occur embedded and in veins of various thickness traversing the serpentine masses.

## COMMON MINERALS FOUND IN SERPENTINE AND TALC

quartz (chalcedony)	magnesite	garnet
spinel	enstatite	clinochlore
chromite	pyroxene	talc
brucite	amphibole	deweylite
dolomite	chrysolite	apatite
calcite		

### Secondary minerals

Secondary minerals, developed as a result of chemical action on previously formed rocks, are, to a large extent, deposited by percolating water. With regard to their mode of occurrence they may be classified as follows: (1) concretions; (2) deposits lining the interior of cavities, vugs, caverns and grottos; (3) vein formations; (4) minerals produced through pseudomorphism and paramorphism.

**Concretions.** Concretionary deposits of mineral matter are frequent in rocks of sedimentary origin. They are in general formed by the deposition, in successive layers around some organic center, of mineral matter leached from the surrounding rock. The calcium carbonate concretions found in clay beds are excellent types of this form of mineral occurrence. Concretionary forms of quartz, siderite, pyrite, chalcocite etc., are also formed in sedimentary rocks.

**Deposits lining the interior of cavities, etc.** The formation of secondary minerals in cavities of various origin results from the chemical action of percolating water on the rock adjacent to and forming the walls of the cavity. The soluble mineral matter is dissolved from the rock traversed by the descending surface water to be redeposited, sometimes in an entirely different form in the open spaces. The minerals thus deposited take the form of distinct crystallizations or of concentric, incrusting masses.

#### COMMON SECONDARY MINERALS OCCURRING IN CAVITIES

hematite	barite	apophyllite
limonite	celestite	stilbite
quartz	anhydrite	chabazite
calcite	gypsum	heulandite
dolomite	serpentine	harmotome
siderite	sulfur	analcite
aragonite	datolite	natrolite
strontianite	prehnite	

**Vein formations.<sup>1</sup>** Mineral veins may, with justice, be considered as constituting a division under the last named class of secondary mineral deposits; the distinctive character of the

<sup>1</sup>The formation of mineral veins has been very fully discussed by Posepny, F. Genesis of Ore Deposits. Am. Inst. Min. Eng. Trans. 1893. p. 23-197.

minerals found in veins has, however, led the author to consider them under a separate head. The large and important group of vein minerals includes most of the ores of commercial importance, particularly the metallic sulfids and sulfosalts.

VEIN MINERALS OF COMMON OCCURRENCE IN NEW YORK STATE

galena	fluorite	dolomite
sphalerite	quartz	siderite
millerite	cuprite	strontianite
pyrrhotite	hematite	orthoclase
chalcocite	magnetite	prochlorite
pyrite	rutile	barite
marcasite	brucite	celestite
arsenopyrite	calcite	gypsum

Minerals produced through pseudomorphism and paramorphism. Minerals included in this group are alteration products of primary minerals. These, while retaining the external form of the primary minerals, from which they were derived, differ essentially from them in composition.

Drift boulders

Transported masses of rock are found in all parts of New York State, frequently in boulders of considerable size. These are fragments of rock which, through action of glacial or fluvial erosion and transportation have been torn from their parent outcrops and have been carried, generally to the south and east of their original sources. The distance which the drift boulder may have been carried by the ice sheet in the glacial period varies widely so that no accurate estimate can be made of the distance between any glacial fragment and its parent mass.

SOURCES AVAILABLE FOR COLLECTING MINERAL SPECIMENS

The sources available for the collection of mineral specimens may be classified as follows:

Sources	natural	surface outcrops drift boulders caves
	artificial	
		mines and quarries
		excavations for construction: foundations of buildings, sewers, subways
		prospects

**Surface outcrops.** The surface outcrops of rocks of all formations but particularly unstratified rocks may be studied with considerable profit by the mineral collector in search of specimens. A judicious use of the hammer and cold chisel will often expose, under an unpromising cluster of weathered and decomposed crystals, fresh material well worth the labor expended on its development. The precipitous faces of cliffs and escarpments, furnish in some cases profitable sources for the collection of specimens.

**Drift boulders and fragments.** While in some instances drift boulders, notably those composed of crystalline rock, are valuable sources of mineral specimens the uncertainty regarding the original locality from which they were derived tends to render questionable the value of such specimens. A source of mineral material which may be classed under this head and which is often of more value than drift fragments embedded in the soil is the fragmental rock material used in the construction of stone walls. The accessibility of these to the roads and the comparative ease with which their component fragments may be identified with the country rock should not be overlooked by the collector particularly in a region of crystalline schists.

**Natural caves.** Subterranean tunnels and caverns, formed principally in limestones by the mechanical and chemical erosion of underground waters, frequently become repositories for secondary minerals deposited on the sides and roof as a result of the leaching action of percolating surface water. The exploration of these natural caves often results in the discovery of beautiful crystallizations which from the nature of their deposition are readily detachable.

**Mines and quarries.** Probably nowhere is the mineral collector better repaid for his trouble than in exploring the dump heap of a mine. The waste material representing, as most of it does, the contents of the contact zone between the vein or ore body and the country rock is usually rich in ore minerals as well as in crystallizations of accessory minerals from the country rock. Similarly but to a somewhat less extent the rejected material from a granite or limestone quarry is a profitable collecting source.

**Excavations for building and improvements.** From the casual manner in which these workings penetrate rock formations with respect to productive mineral zones they are hardly calculated to furnish the wealth of mineral specimens met with in mining and quarrying operations. It is, however, true that many rich finds such as, for example, the dumortierite of New York island have resulted from excavations for foundations of buildings, sewer diggings and other municipal improvement works. The accessibility of these excavations to the centers of population often results in a more careful study of the excavated material and in the finding of obscure mineral occurrences which might otherwise escape notice. Rocks exposed in railroad cuts and tunnels may also be said to constitute an important subclass under this head and possess the added advantage of being permanently available for collecting purposes.

**Prospects.** The use of rudimentary mining tools and methods is of considerable value in the acquiring of mineral specimens particularly in regions where mining and quarrying operations are not generally pursued. In most cases a knowledge of the prevailing dip and strike of the country rocks and of the location of the zones of contact between their strata will enable the collector to reach with the aid of a pick and shovel points where the component and accessory minerals occur in well crystallized aggregates. In some cases a blast exploded in a properly drilled hole will amply repay for the expense and trouble incurred, but of course such procedure should be attended with the greatest caution.

#### EXPLANATION OF LIST

In the following tabulated list of localities the first and fifth columns contain the numbers which have been assigned to each locality in order to furnish a ready and convenient means of reference. The second column gives with as much detail as is available the geographic position of the localities grouped under counties and towns. As far as possible definite geographic locations have been substituted for old names of farms, etc.; it has been the author's experience that it is at present extremely difficult to locate the original mineral locality by the old farm name. The third column gives a list of the mineral species

occurring at each locality. The fourth column contains descriptive notes regarding such crystallographic, structural, or other features as may be characteristic of the mineral occurrence. The sixth column is reserved for a quality mark which is assigned to certain occurrences to indicate the mineralogic quality or commercial importance of the material as follows:

xx indicates very fine specimens

x indicates fine specimens

\* indicates that the mineral has been mined or quarried

† indicates that the mines or quarries are no longer operated

The absence of any of the above symbols in the sixth column opposite any given species indicates the occurrence of specimens of ordinary grade.

In the seventh column is noted the character of the rock in which the mineral species occurs, this in many cases being common to all the species found in any locality.

The eighth column contains a list of the mineral species associated with the mineral noted in the third column. This in many instances constitutes a genetic association which is of interest from the standpoint of the formation of minerals.

The numbers and letters given in the ninth column refer to the published and unpublished authorities as given in the following bibliography and list of unpublished authorities.

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- h* Mr Gilbert van Ingen
- j* Mr W. W. Jefferies
- k* Prof. J. F. Kemp
- l* Mr H. O. Clough
- m* Dr F. J. H. Merrill
- p* Mr H. S. Peck
- w* The author

## ALBANY

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Bethlehem</b>			
1	Kenwood, north bank Normans kill	calcite.....	small nail head crystals.....
		quartz.....	small crystals.....
		pyrite.....	nodular concretions and crystals.....
2	1½ m. n. w. Coeyman.....	epsomite.....	efflorescence on limestone.....
		calcite.....	stalactites and sinter.....
		gypsum.....	massive and snowy.....
3	Crystal hill, Glenmont .....	quartz.....	crystals.....
<b>Coeyman</b>			
4	Coeyman.....	gypsum.....	selenite crystals.....
<b>New Scotland</b>			
5	Indian Ladder.....	calcite.....	crystals.....
		pyrite.....	small crystals.....
6	1 m. e. Indian Ladder .....	calcite.....	small brilliant crystals.....
		dolomite.....	white and pinkish aggregates.....
		aragonite.....	radiating needles.....
7	½ m. s. of New Salem.....	pyrite.....	small bright crystals.....
<b>Watervliet</b>			
8	Campbell.....	quartz.....	yellow drusy crystals.....

## ALLEGANY

The Devonian shales and sandstones have been successfully drilled for petroleum in many mineral localities.

## BROOME

The Devonian shales, sandstones and conglomerates of this county do not include mineral

## CATTARAUGUS

The Devonian shales and sandstones which constitute the rocks of this county have been otherwise these formations are unprolific in mineral localities.

## CAYUGA

<b>Auburn</b>			
9	at base of hill on e. bank Owasco creek	celestite.....	thin radial blades.....
		calcite.....	in minute crystals and rounded masses.....
		fluorite.....	.....
		epsomite .....	.....
<b>Springport</b>			
10	Thompson's plaster beds.....	sulfur.....	semicrystalline .....
		gypsum .....	selenite.....

**COUNTY**

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
1	vein in shale		quartz.....	w
	"		calcite.....	w
	in shale			w
2	on limestone			5, 43
	in shale		gypsum.....	5, 43
	"		calcite.....	5, 43
3	"			5, 43
4	in clay			5, 43
5	in limestone			l
	"			l
6	"		dolomite, aragonite.....	l
	"		calcite.....	l
	"		" .....	l
7	in shale			w
8	"			5, 43

**COUNTY**

localities in the southern section of the county, otherwise these formations are not prolific

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

successfully drilled for petroleum in many localities [in the southern section of the county,

**COUNTY**

9	in dark Salina limestone		calcite, fluorite etc.....	5, 43
	in slate		celestite .....	5, 43
	in Salina limestone		" calcite.....	5, 43
	"		calcite, fluorite .....	5, 43
10	xx	in gypsum of Salina		5, 43
x		"	sulfur .....	43

**CAYUGA**

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Union Springs</b>		
11		gypsum .....	selenite.....
		calcite.....	modified and twin crystals.....
		dolomite.....	curved crystals.....
		quartz.....	crystals .....

**CHAUTAUQUA**

The Devonian shales and sandstones which constitute the rocks of this county do not include

**CHEMUNG**

*See Chautauqua*

**CHENANGO**

*See Chautauqua*

**CLINTON****Ausable**

12	Arnold hill mines 1½ m. w. Ferrona .....	magnetite .....	medium fine crystalline.....
		fluorite.....	purple and green.....
		pyrite .....	.....
		quartz .....	red jasper .....
13	Cook mine 1½ m. e. Ferrona .....	magnetite .....	medium fine crystalline .....
		calcite.....	sharp needle crystals, radiating ..
		amphibole.....	crystals, dark green to black .....
		" .....	black fibrous hornblende.....
		oligoclase.....	in broadly striated cleavages .....
14	Winter mine 4½ m. e. Ferrona.....	magnetite .....	.....

**Black Brook**

15	Palmer hill mines 1½ m. n. Ausable Forks	magnetite .....	coarse grained.....
		orthoclase .....	flesh-colored .....
16	Tremblay's mine 1½ m. w. Clayburg....	magnetite .....	.....
17	Bowen & Signor's mine, Williamsb'g ..	" .....	.....

**Chazy**

18	Chazy.....	calcite.....	small nail head crystals.....
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**Dannemora**

19	Dannemora.....	magnetite .....	.....
20	Chateaugay mines Lyon Mountain....	" .....	coarse crystalline ore.....
		apatite.....	rounded grains .....
21	Lyon Mountain near Roger's field.....	pyroxene.....	long, well formed crystals with granular core.....

**COUNTY** (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
11	x.....	in Onondaga limestone.....	calcite, dolomite .....	43
	xx .....	" .....	dolomite.....	140
	xx .....	" .....	calcite.....	140
	.....	" .....	" .....	140

**COUNTY**

mineral localities of sufficient importance to note in this list.

**COUNTY**

county.

**COUNTY**

county.

**COUNTY**

12	x*.....	veins in gneiss.....	quartz, feldspars.....	149, 194
	x.....	" .....	" calcite.....	43
	.....	" .....	" .....	e
	.....	vein in gneiss .....	magnetite .....	e
13	*.....	veins in gneiss.....	.....	e
	.....	" .....	.....	e
	x .....	" .....	magnetite, feldspar .....	e
	.....	in gneiss.....	feldspar .....	e
	x .....	" .....	amphibole (hornblende) .....	e
14	* †.....	" .....	.....	194
15	*.....	" .....	orthoclase .....	149, 194
	.....	" .....	magnetite, quartz .....	149
16	* †.....	.....	.....	149, 194
17	*.....	.....	.....	149
18	.....	fault plane in limestone.....	.....	h
19	*.....	.....	.....	194
20	*.....	in granite.....	apatite, quartz etc.....	194
	.....	" magnetite .....	.....	m
21	.....	" Bostonite dikes .....	plagioclase, olivin.....	159

## COLUMBIA

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Ancram</b>			
22	Ancram lead mines.....	galena.....	foliated and granular.....
		sphalerite.....	yellow and brown colors.....
		chalcopyrite.....	large masses with blue tarnish.....
		wulfenite .....	
		serpentine.....	
23	1 m. s.e. Ancram lead mines.....	albite.....	small transparent crystals.....
24	{ Morgan iron mine 2m. n. Ancram lead mines.....	limonite.....	{ loose decomposed ore cut by siderite.....
			{ concretionary siderite.....
25	Reynolds mine 1m. e. Halstead.....	limonite.....	
		siderite.....	
<b>Austerlitz</b>			
26	.....	chalcocite.....	massive.....
<b>Canaan</b>			
27	.....	chalcopyrite.....	
		chalcocite.....	massive.....
<b>Copake</b>			
28	Copake, N. Y. & H. R. R. ....	limonite.....	large ore beds.....
		graphite.....	
<b>Hillsdale</b>			
29	group of 3 mines, 3m. e. Hillsdale, 3m. n.e. Hillsdale, 1½ m.e. N. Hillsdale....	limonite.....	
<b>Greenport</b>			
30	near Hudson.....	gypsum.....	selenite.....
		wad.....	
		siderite.....	loose, decomposed material.....
		dolomite .....	grading into ankerite.....
		epsomite.....	efflorescences on slate.....
		calcite	small prismatic crystals
<b>Livingston</b>			
31	Burden mines 2 m. s.e. Linlithgo.....	siderite.....	massive material altering to limonite.....
		quartz.....	small crystals.....
<b>Stuyvesant</b>			
32	s. of Cary Brick Co., Coxsackie....	gypsum.....	selenite crystals.....

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
22	*†	vein in talcose slate.....	sphalerite, chalcopyrite.....	5, 43
	*†	"	galena.....	5, 43
	*†	"	sphalerite, galena.....	5, 43
		"	.....	5, 43
		"	.....	w
23	x	in quartz vein.....	quartz.....	w
24	{ *†	" slate.....	.....	149, 194
	{ *†	" .....	.....	149, 194
25	*†	.....	.....	149, 194
		.....	.....	149, 194
26		in quartz vein traversing limestone.....	.....	5
27		in veins of galena.....	.....	43
		" .....	.....	5, 43
28	*	in slaty rock and limestone.....	.....	43, 149, 194
		" .....	.....	43
29	*†	in crystalline limestone.....	.....	194
30	xx	.....	.....	43
	x	.....	.....	43
	x	.....	.....	43
		.....	.....	5
		in Helderberg limestone.....	.....	w
31	*†	in shale.....	quartz.....	194
		seams and pockets in iron ore.....	siderite.....	w
32	x	in clay bank.....	.....	w

**CORTLAND**

The Devonian rocks of this county do not include mineral

**DELAWARE***See Cortland***DUTCHESS**

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Amenia</b>			
33	Manhattan mine, Sharon Station } Amenia mine, Amenia .....	limonite..... turgite..... siderite..... chalcopyrite.....	
<b>Beekman</b>			
33a	Sylvan Lake mines, near Sylvan Lake	limonite.....	
<b>Dover</b>			
34	Dover Plains marble quarry.....	dolomite..... amphibole.....	massive..... tremolite.....
35	Deuel Hollow mine 2m. s.e. South Dover	limonite.....	
36	Dover mine, Dover Furnace station...	"..... staurolite..... garnet.....	small crystals..... small red and brown crystals.....
<b>East Fishkill</b>			
37	Pecksville.....	graphite..... talc..... amphibole..... pyroxene .....	foliated and granular..... gray and white of uneven structure pale green actinolite and hydrous anthrophyllite..... augite.....
38	Fishkill iron mines East Fishkill.....	limonite.....	
<b>Northeast</b>			
39	near Smithfield.....	chalcocite..... chalcopyrite..... galena..... sphalerite.....	
40	Riga Mine, Mount Riga.....	limonite.....	
40a	Malby mine, 1½ m. n.e. Millerton .....	" .....	

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

county.

**COUNTY**

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
33	x*†.....	in grayish blue limestone.....	siderite etc.....	149, 194
	x*†.....	" .....	limonite.....	43
	x*†.....	" .....	" .....	43
		" .....	" .....	5
33a	*†.....	" .....		149, 194
34	.....	in crystalline limestone.....		5, 43
		" .....	dolomite.....	5, 43
35	x*†.....	" .....		149, 194
36	.....	between strata of mica schist.....		149, 194
	.....	in mica schist.....	garnet.....	5, 43
	x.....	" .....	staurolite.....	5, 43
37	.....	in vein of granite.....		3
				5, 43
	x.....	in talc and limestone.....		5, 43
		" limestone.....	amphibole, dolomite.....	43
38	x*†.....	" schist.....		149, 194
39	.....			5, 43
				43
				43
				43
40	*†.....	in limestone.....		149, 194
40a	*†.....	" .....		149, 194

## DUTCHESS

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Pawling</b>			
41	Pawling mine 2½ m. w.n.w. of Pawling.	limonite.....	
<b>Poughkeepsie</b>			
42	s. end of r.r. cut at Mine Point.....	anthracite.....	
<b>Unionvale</b>			
43	Clove mine.....	limonite..... gibbsite.....	

## ERIE

The Devonian rocks in the vicinity of

## ESSEX

<b>Chesterfield</b>			
44	s.w. corner of town.....	magnetite.....	titaniferous.....
<b>Crown Point</b>			
45	iron mines, Hammondsburg.....	magnetite..... pyroxene.....	medium fine crystalline..... small black crystals.....
46	1 m. s. Hammondsburg.....	apatite..... apatite..... tourmalin..... chlorite..... quartz..... calcite..... pyrite..... garnet..... wernerite..... oligoclase..... zircon..... chalcopyrite..... epidote.....	elongated terminated prisms..... mamillary eupyrrhroite..... fine brown crystals..... crystals..... crystals..... crystals..... brown crystals..... aventurin..... crystals..... small imperfect crystals.....
47	Skiff mine 2 m. s. Hammondsburg.....	magnetite.....	
<b>Elizabethtown</b>			
48	Gates mine 1 m. s.e. New Russia.....	".....	titaniferous .....
<b>Keene</b>			
49	Weston mine 1 m. s.w. Keene.....	".....	
50	2 m. s.e. Keene.....	pyroxene.....	black crystals.....
51	Mount Marcy.....	".....	dillage in foliated masses.....
	See also locality 65.		

**COUNTY** (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
41	*†	in limestone.....		149, 194
42	*†	in green shale.....	quartz.....	h
43	*			43
				43

**COUNTY**

Buffalo furnish considerable natural gas.

**COUNTY**

44	*†	in norite.....		194
45	*	in gneiss.....	quartz, plagioclase.....	149, 194
		" .....	magnetite.....	159
46	x	in limestone.....	calcite.....	5, 43
x†		" .....	quartz.....	5, 43, 91
xx		" .....	apatite, orthoclase.....	43
		" .....		43
		" .....		43
x		" .....		43
x		in gneiss, at contact.....		43
x		" .....	orthoclase, magnetite .....	43
		" .....	quartz, " .....	5, 43
		" .....		43
		" .....	quartz.....	43
			" oligoclase.....	43
47				194
48	*†	in gabbro.....		149, 194
49	*†	in crystalline limestone.....	calcite, epidote.....	149, 194
50		" .....	wernerite.....	159
51		in gabbro.....		159

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Lewis</b>			
52	Lewis Corners.....	wollastonite.....	abundant.....
		labradorite.....	dark gray, brilliant play of colors..
		amphibole.....	actinolite, hornblende.....
		arsenopyrite.....	massive.....
53	Cross.....	wollastonite.....	abundant.....
		garnet.....	colophonite.....
<b>Minerva</b>			
54	Minerva mine.....	magnetite.....	.....
<b>Moriah</b>			
55	Sanford ore bed 6m. w. Port Henry.....	" .....	.....
		apatite.....	green and brown crystals.....
		allanite.....	large crystals.....
		lanthanite.....	in delicate scales.....
		amphibole.....	actinolite and hornblende.....
56	Mineville, Hall ore bed.....	magnetite.....	medium fine grained.....
		zircon.....	cinnamon red.....
57	Mineville, mine 21 etc.....	magnetite.....	in beautifully developed crystals..
		zircon.....	large crystals.....
58	6m. n.w. P't H'n'y (Roe's spar bed) .....	tourmalin.....	in prisms sometimes altered internally
		muscovite.....	.....
		quartz.....	rose quartz.....
	Tredway quarry.....	serpentine.....	verd antique marble.....
59	Port Henry (Pease quarry etc.).....	pyroxene.....	jet black massive and crystals.....
		" .....	white & pink diopsid in crystals....
		pyrite.....	crystals.....
		pyrrhotite.....	strongly magnetic.....
		graphite.....	massive.....
		amphibole.....	hornblende.....
		wollastonite.....	crystalline.....
		orthoclase .....	adularia sometimes in minute transparent crystals .....
		titanite.....	yellowish brown.....
		tourmalin.....	brown.....

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
52	in gabbro		garnet, quartz etc.	5, 43
x	"			5
	"			5, 43
	"		hornblende	5, 43
53	"		amphibole, garnet	5, 43
	"			5, 43
54 *†				194
55 *†	in gneiss		apatite, amphibole	5, 43, 149,
	"			175, 194
xx	"		magnetite, apatite	12, 39, 162
	in fissures in the ore and on allanite		magnetite, allanite	12, 43
			magnetite, allanite	5, 43
56 x*	in gneiss		zircon	43, 194
x	" quartz vein		magnetite	5, 43
57 xx*	" gneiss		apatite	43, 194
x	" quartz		magnetite	43
58 x	" granular limestone			5, 43, 98,
	"			221
	"			5
x	"			5, 43, 98
x	"			5, 43, 131
59 x	"		magnetite	5, 159
x	"		titanite, amphibole etc	5, 159
x	"		pyrrhotite	5, 43
	"		pyrite	5, 43
	"		tourmalin, pyroxene	43
	"		oligoclase, quartz	98
	"		pyroxene, albite	5, 43
x	"		pyroxene, titanite etc	5, 43
x	"		amphibole	98
xx	"		" titanite	98

## ESSEX

NO	LOCALITY	SPECIES	DESCRIPTION
<b>Moriah (continued)</b>			
60	Mill brook 2m. n.w. of Port Henry	calcite.....	crystals.....
		quartz.....	smoky.....
		pyroxene.....	
		graphite.....	small hexagonal crystals.....
61	Cheever mine 2m. n. Port Henry	magnetite.....	fine crystalline ore.....
		albite.....	greenish.....
		pyroxene.....	augite.....
<b>Newcomb</b>			
62	Adirondack mines near Lake Sanford	magnetite .....	fine grained titaniferous .....
		labradorite.....	deeply striated.....
		hypersthene.....	
63	south shore Lake Harris 1m. e. of Newcomb .....	tourmalin .....	brown and green.....
		titanite.....	twinned crystals.....
		zircon.....	greenish black.....
		muscovite .....	yellowish green.....
		wernerite.....	semitransparent.....
		albite.....	opalescent mainly in druses .....
64	McIntyre 2m. s.e. Lake Sanford .....	labradorite.....	
		garnet.....	
		magnetite .....	
<b>North Elba</b>			
65	a Cascadeville, 6m. s.e. Lake Placid .....	pyroxene .....	light green rounded grains .....
<b>Schroon</b>			
66	Paradox Lake mines .....	magnetite .....	
		calcite.....	fine green translucent masses.....
		pyroxene.....	
		chondrodite .....	
		tourmalin.....	crystals .....
		wernerite.....	
<b>Ticonderoga</b>			
67	Chilson lake (Paragon lake) .....	apatite .....	
		garnet.....	
		pyroxene.....	crystals and cocolite.....
		vesuvianite .....	
		wernerite .....	
		magnetite .....	
		calcite.....	blue .....

*a* This locality extends into Keene.

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
60	x	in white limestone.....	pyroxene, amphibole, albite.	5, 43, 98
	x	" .....	calcite.....	e
		" .....	" amphibole etc.....	43
		" .....	" .....	98
61	x*	Grenville schist.....		149, 194
		" .....	magnetite.....	5
		" .....	" labradorite.....	159
62	*†	in gabbro.....	labradorite, hypersthene.....	149, 194
		" .....	hypersthene.....	43
		" .....	labradorite.....	43
63	xx	in Grenville limestone .....	apatite, zircon etc.....	135
	x	" .....	" .....	135
	x	" .....	tourmalin, apatite .....	135
		" .....		135
		" .....		135
		" .....		135
64	x	in gabbro.....	magnetite .....	43
		" .....		43
	x	" .....	labradorite.....	43
65		in calcite vein .....		159
66	*†	in Grenville limestone .....	pyroxene, chondrodite .....	194
	x	" .....	" .....	5, 43
		" .....	wernerite, calcite .....	43
	x	" .....	tourmalin, wernerite .....	43
		" .....	chondrodite etc.....	43
		" .....	pyroxene, calcite .....	5
67		contact gneiss and limestone.....		43
	x	" .....		43
	x	" .....		5, 43
		" .....		5, 43
	x	" .....	pyroxene, calcite .....	43
		" .....		43
		" .....		43

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Ticonderoga (continued)</b>			
68	Kirby graphite mine 3m. n.w. Ticon'ga	graphite.....	crystals and folia .....
		pyroxene.....	large dark green crystals carrying inclusions of calcite .....
		wernerite.....	perfect crystals.....
		titanite.....	yellowish gray crystals .....
		tourmalin.....	black .....
		apatite.....	.....
		calcite.....	light yellow.....
		quartz .....	.....
69	Mount Defiance .....	pyroxene.....	salite.....
		magnetite.....	.....
		cacoxenite.....	.....
70	Rogers Rock.....	graphite.....	.....
		wollastonite.....	.....
		garnet.....	crystallized and massive colo- phonite.....
		orthoclase .....	brown, red and yellow adularia.....
		pyroxene.....	massive and granular cocolite.....
		titanite.....	abundant small, brown crystals.....
		calcite.....	masses of minute crystals .....
<b>Westport</b>			
71	Splitrock mine 5m. n.e. Westport .....	magnetite .....	fine grain titaniferous .....
		graphite.....	.....
		labradorite.....	.....
		prehnite.....	chiltonite.....
<b>Willsboro</b>			
72	.....	wollastonite.....	.....
		garnet.....	colophonite.....
		pyroxene.....	green cocolite .....
		amphibole.....	hornblende in interesting forms .....
		quartz .....	milky .....

**FRANKLIN**

The rocks of this county afford no recorded mineral localities of sufficient importance

**FULTON**

The rocks of this county afford no recorded mineral localities of sufficient importance

**GENESEE**

Salt is mined and obtained in solution from the rocks of the Salina by drilling

**COUNTY** (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
68	xx*	in crystalline limestone and mica schist	calcite . . . . .	43, 135
	xx	"	graphite wernerite . . . . .	5, 43, 135
x	.....	contact limestone and gneiss . . . . .	" pyroxene etc . . . . .	5, 43, 135
.....	.....	in white granular and lamellar feldspar.	pyroxene, wernerite . . . . .	5, 43, 135
.....	.....	"	wernerite, pyroxene . . . . .	5, 43, 135
.....	.....	.....	" . . . . .	135
.....	.....	vein mineral . . . . .	.....	135
69	.....	.....	.....	135
.....	.....	.....	.....	5
.....	.....	.....	.....	194
.....	.....	.....	.....	5, 43
70	x	in crystalline limestone . . . . .	pyroxene titanite . . . . .	43
x	.....	" . . . . .	garnet, orthoclase . . . . .	5, 43
x	.....	" . . . . .	.....	5, 43
.....	.....	" . . . . .	.....	5, 43
x	.....	" . . . . .	orthoclase, titanite . . . . .	5, 43
.....	.....	" . . . . .	.....	5, 43
.....	.....	" . . . . .	.....	5
71	*†	in norite . . . . .	.....	149, 194
.....	.....	" . . . . .	.....	m
.....	.....	" . . . . .	.....	5, 43
.....	.....	" . . . . .	.....	43
72	x	in vein traversing gabbro . . . . .	garnet . . . . .	5, 43
x	.....	" . . . . .	wollastonite, pyroxene . . . . .	5
x	.....	" . . . . .	" titanite, garnet . . . . .	5, 43, 175
.....	.....	" . . . . .	black tourmalin . . . . .	5, 43
.....	.....	" . . . . .	.....	8

**COUNTY**

to note in this list though minor localities undoubtedly occur in the crystalline rocks.

**COUNTY**

to note in this list though minor localities undoubtedly occur in the crystalline rocks.

**COUNTY**

through the Devonian rocks which cover the southern section of this county.

## GREENE

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Catskill</b>		
73	Diamond hill, Catskill.....	quartz.....	fine large crystals.....
74	Austin's glen 2m. n.w. Catskill.....	calcite.....	massive and coarsely crystallized.....
		quartz.....	small crystals.....
	<b>New Baltimore</b>		
75	limestone quarry at New Baltimore...	calcite.....	interesting crystals.....
		quartz.....	crystals in parallel position.....

## HAMILTON

The rocks of this county afford no recorded mineral localities of sufficient importance to note

## HERKIMER

	<b>Fairfield</b>		
76	Diamond hill 3m. n.e. Fairfield.....	quartz.....	crystals.....
		barite.....	massive yellowish white.....
	<b>Little Falls</b>		
77	Little Falls.....	quartz.....	brilliant transparent crystals.....
		barite.....	yellowish white lamellar masses.....
		dolomite .....	white and pearly crystals.....
78	1m.s. L. Falls in bed of small stream....	calcite.....	white crystals.....
		ankerite.....	included under brown spar.....
		siderite.....	
		orthoclase.....	flesh colored cleavages .....
	<b>Newport</b>		
79	Middleville.....	quartz.....	detached crystals and groupings.....
		calcite.....	flat crystals nail head type.....
		dolomite.....	white and pearly crystals.....
80	Newport.....	quartz.....	detached crystals.....
	<b>Salisbury</b>		
81	Salisbury .....	quartz .....	crystals larger than preceding.....
82	near Salisbury Center.....	sphalerite.....	.....
		galena.....	.....
		pyrite .....	.....
		chalcopyrite.....	.....
83	.....	pyroxene.....	green cocolite.....
	<b>Stark</b>		
84	near Starkville.....	celestite.....	fibrous, bluish or blue.....
		gypsum.....	.....

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
73	x.....	embedded in stiff clay bet. layers of slate	.....	5, 27, 43
74	.....	veins in shale.....	quartz.....	w
		"	calcite.....	w
75	x.....	in Helderberg limestone.....	.....	p
xx	.....	"	.....	e

## COUNTY

in this list though minor localities undoubtedly occur in the crystalline rocks.

## COUNTY

76	x.....	in Beekmantown limestone.....	barite.....	5, 43
	.....	"	quartz.....	5, 43
77	xx.....	in cavities in Beekmantown limestone..	barite, calcite.....	5, 43
	.....	" Beekmantown limestone.....	quartz dolomite.....	5, 43
		"	calcite quartz.....	5
78	.....	Trenton limestone.....	siderite, orthoclase.....	5, 43
	.....	"	calcite.....	43
	.....	"	.....	5
79	xx .....	in cavities in Beekmantown limestone..	calcite, dolomite.....	5, 43
x.....	.....	" Beekmantown limestone.....	quartz " .....	5, 43
	.....	" cavities in Beekmantown limestone..	.....	5, 43
80	x.....	"	.....	5, 43
81	xx .....	"	.....	5, 43
82	.....	vein in gneiss.....	.....	5, 43
	.....	"	.....	5, 43
	.....	"	.....	43
	.....	"	.....	5, 43
83	.....	in Beekmantown limestone.....	calcite.....	5
84	.....	in Salina waterlime.....	gypsum.....	5, 43
	.....	"	celestite.....	43

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Adams</b>			
85	near North Adams.....	fluorite..... barite.....	pink and green.....
<b>Alexandria</b>			
86	High island, St Lawrence river.....	tourmalin..... amphibole..... orthoclase..... celestite.....	long prisms.....
87	Omar.....	beryl..... hematite.....	
<b>Antwerp</b>			
88	Antwerp, Sterling mine.....	hematite..... stilpnomelane..... siderite..... ankerite..... millerite..... quartz..... "..... sphalerite..... serpentine.....	bright flat crystals and massive red chalcodite in velvety brown masses small crystals and crystal. masses. "..... capillary crystals lining cavities... small transparent crystals..... "..... modified crystal (rare)..... red and green concentric bands.....
89	aOxbow, west shore of Yellow lake...	calcite..... barite.....	large crystals and cleavages..... porous coralloid.....
90	near Vrooman's lake.....	calcite..... fluorite..... pyrite..... chalcopyrite..... vesuvianite..... phlogopite..... pyroxene..... titaniite.....	cleavage masses..... green cubes..... ..... ..... terminated crystals..... ..... green crystals..... .....
91	2m. s.w. Oxbow.....	limonite..... serpentine.....	bog iron ore..... yellowish green .....
92	.....	orthoclase..... wernerite..... tourmalin.....	..... ..... yellow (rare).....

*a* See also St Lawrence county.

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
85		in limestone.....	barite.....	43, 77
		" .....	fluorite.....	43, 77
86	x	in gneiss.....	amphibole, orthoclase.....	5, 43, 77
		" .....	tourmalin, orthoclase.....	5, 43
x		" .....	" etc.....	5, 43
		in limestone.....		43
87	x	" gneiss.....	feldspar.....	43
		" .....		43
88	x*	in gneiss.....	siderite, quartz etc.....	5, 43
xx		" .....	calcite, hematite.....	20, 43
x		" .....	hematite.....	43
x		" .....	" .....	43
xx		" .....	" .....	43, 78
		" .....	" siderite etc.....	43
x		" .....	" "	c
x		" .....	" .....	w
		" .....	" .....	w
89	xx	in limestone.....		5, 43
		" .....	calcite.....	43
90	xx	vein in limestone.....	fluorite.....	43
x		" .....	calcite.....	43
		" .....		43, 77
		" .....		43, 77
		" .....	pyroxene, titanite.....	43, 77
xx		in gneiss.....	" .....	43
x		" .....	titanite, phlogopite.....	5, 43
		" .....	pyroxene.....	43, 77
91	x	" .....	orthoclase.....	43
x		in vein of crystalline limestone.....		5, 43
92	x	" gneiss.....	wernerite.....	43
		" .....	orthoclase, titanite.....	43
		" .....		43

## JEFFERSON

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Brownville</b>		
93	Brownville, banks of Black river.....	celestite..... calcite.....	slender crystals .....
94	Pillar Point, Lee farm on n. shore.....	barite.....	massive banded structure .....
	<b>Clayton</b>		
95	near Depauville.....	celestite.....	
	<b>Lyme</b>		
96	Chaumont, Chaumont bay.....	" .....	slender white radiating needles...
	<b>Philadelphia</b>		
97	Shirtliff mine, Philadelphia.....	hematite.....	
98	Indian river.....	garnet.....	
	<b>Theresa</b>		
99	Theresa.....	fluorite..... calcite..... hematite..... amphibole..... serpentine .....	
		celestite..... strontianite....	white crystalline masses..... " .....
100	s.e. bank of Muscalonge lake.....	fluorite..... phlogopite..... chalcopyrite..... apatite.....	sea-green cubes.....
	<b>Watertown</b>		
101	banks of Black river.....	amphibole.....	white tremolite also brown & gray.
	<b>Wilna</b>		
102	Natural Bridge.....	muscovite (gla- seckite)..... talc (steatite)...	in six sided prisms pseudomorphs after nephelite..... pseudomorphs after apatite pyrox- ene, orthoclase etc.....
103	1m. n. Natural Bridge.....	calcite.....	modified white crystals.....
	2m. e. Natural Bridge, <i>see</i> Lewis co.		

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
93		Trenton limestone.....	calcite.....	5, 43, w
		" .....	celestite.....	43, w
94 *†		" .....	calcite.....	5, 43, 77, w
95		" .....		5
96		" .....		5, 43
97 *†		in gneiss.....		194
98 x		" .....		43
99 x		gneiss limestone contact.....	calcite, quartz.....	43
x		" .....	fluorite.....	43
		" .....	serpentine .....	43
		" .....		43
		" .....	hematite.....	43
		" .....	calcite fluorite.....	43, 77
		" .....	" .....	43
100 xx		in limestone gneiss contact.....	calcite, apatite.....	5, 43
x		" .....	" .....	43
		" .....		5, 43
		" .....		43
101		in Grenville limestone.....	calcite.....	5, 43
102 xx		in decomposed Grenville limestone.....		43
		" .....		43
103		in Grenville limestone.....		5, 43

LEWIS

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Diana</b>			
104	2m. e. Natural Bridge (Ashmore's f'rm)	apatite.....	large green crystals .....
		wernerite.....	white, bluish and dark gray crystals .....
		pyroxene .....	dark green to black crystals augite .....
		amphibole.....	tremolite .....
		talc.....	rensselaerite .....
		wollastonite....	abundant white crystals .....
		serpentine.....	variegated .....
		titanite.....	dark brown crystals .....
		zircon.....	rare .....
		quartz.....	doubly terminated crystals .....
		calcite.....	blue .....
		graphite.....	.....
		orthoclase.....	modified crystals .....
		hematite .....	.....
105	Harrisville, 2m. e. Bonaparte lake.....	wollastonite.....	large crystals .....
<b>Greig</b>			
106	Greig .....	magnetite.....	.....
		pyrite .....	.....
<b>Martinsburg</b>			
107	vicinity of Martinsburg, 4m. n.w. of Martinsburg .....	calcite.....	prismatic, terminated crystals .....
		fluorite.....	green, nearly transparent crystals .....
		pyrite .....	.....
		galena.....	modified cubes .....
		sphalerite.....	granular, massive .....

[ LIVINGSTON

Salt and gypsum are obtained from the rocks of the Salina in a number of localities; sec-

MADISON

The rocks of this county afford no recorded mineral

MONROE

<b>Rochester</b>			
108	Pike's quarry .....	dolomite.....	in geodes .....
		calcite.....	in geodes also stalactites .....
		gypsum.....	selenite and snowy .....

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
104	xx.....	limestone syenite contact.....	calcite.....	5, 43
	xx.....	" .....	" .....	5
	xx.....	" .....	wernerite.....	5, 43, 155
				159, <i>j</i>
	x.....	" .....	calcite.....	43
	x.....	" .....	" serpentine .....	43, 77
	xx.....	" .....	" pyroxene .....	5, 43, 77, <i>j</i>
	.....	" .....	talc.....	43
	x.....	" .....	wernerite, pyroxene.....	5, 43, <i>j</i>
	.....	" .....	" .....	5, 43, 77
	x.....	" .....	wernerite, pyroxene.....	43
	.....	" .....	wernerite, pyroxene.....	<i>j</i>
	.....	" .....	" .....	43
	.....	" .....	" .....	<i>j</i>
	.....	" .....	" .....	43
105	.....	in decomposed Grenville limestone.....		43, <i>c</i>
106	.....	in gneiss.....		43, 77
	.....	" .....		43, 77
107	x.....	in Trenton limestone.....	fluorite, galena etc.....	5, 43
	.....	" .....	calcite, pyrite, galena.....	5, 43
	.....	" .....	galena, sphalerite, fluorite...	5, 43
	.....	" .....	pyrite, sphalerite.....	5, 43
	.....	" .....	" " galena.....	5, 43

## COUNTY

ondary celestite, barite and calcite are also found in septaria in Genesee shale at several places.

## COUNTY

localities of sufficient importance to note in this list.

## COUNTY

108	x.....	in Niagara limestone.....	calcite, celestite, gypsum.....	5, 43, <i>h</i>
	.....	" .....	dolomite etc.....	43, <i>h</i>
	.....	" .....	" .....	43

## MONROE

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Rochester (continued)</b>		
	Pike's quarry (continued) . . . . .	celestite . . . . .	nodular . . . . .
		fluorite . . . . .	occasionally in cubes . . . . .
		barite . . . . .	massive snowy . . . . .
		galena . . . . .	honey-brown crystals . . . . .
		sphalerite . . . . .	honey-brown crystals . . . . .
108a	Gorge of Genesee river . . . . .	hematite . . . . .	Clinton ore . . . . .

## MONTGOMERY

	<b>Palatine</b>		
109	2m. e. Spraker's Basin . . . . .	quartz . . . . .	singly terminated crystals and drusy masses . . . . .
		" . . . . .	chalcedony . . . . .
		garnet . . . . .	
		anthracite . . . . .	
	<b>Root</b>		
110	on Flat Creek 1½m. s.e. Spraker's B's'n	sphalerite . . . . .	minute transparent light yellow crystals . . . . .
		barite . . . . .	lamellar masses . . . . .
		galena . . . . .	
		pyrite . . . . .	massive . . . . .
		calcite . . . . .	stalactitic . . . . .
		dolomite . . . . .	brown and pearly . . . . .
111	near Spraker's Basin . . . . .	rutile . . . . .	minute crystals . . . . .

## NASSAU

The rocks of this county are deeply covered with drift and artificially

## NEW YORK

112	Corlaer's hook, Canal st. and East river	hypersthene . . . . .	
113	Kip's bay, 34th st. and East river . . .	heulandite . . . . .	
114	38th st. and East river . . . . .	epidote . . . . .	
		orthoclase . . . . .	pinkish crystals . . . . .
115	42d st. and 4th av. . . . .	siderite . . . . .	spheric aggregates . . . . .
		dolomite . . . . .	crystals . . . . .
116	43d-44th st. and 1st-3d av. . . . .	molybdenite . . . . .	disseminated scales . . . . .
		calcite . . . . .	crystals crusted with pyrite . . . . .
		beryl . . . . .	small crystals . . . . .
		tourmalin . . . . .	black crystals . . . . .
		muscovite . . . . .	large brown crystals . . . . .
		oligoclase . . . . .	
		garnet . . . . .	
117	W. 35th st. . . . .	garnet . . . . .	large crystal, 6 inches diameter . . . . .

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
108a*†	" " " " "	in Niagara limestone.....	dolomite etc.....	5, 43
		" .....	" .....	5, 43
		" .....	.....	43, h
		" .....	sphalerite.....	5, 43
		" .....	galena, calcite, gypsum.....	5, h
		.....	.....	m

## COUNTY

109	.....	in gneiss.....	garnet.....	5, 43
	" .....	" .....	" .....	5, 43
	" .....	.....	quartz.....	5, 43
	" .....	.....	.....	43
110	.....	in Trenton limestone.....	galena, barite.....	5, 43
		" .....	" sphalerite, calcite.....	5, 43
		" .....	barite " .....	43
		" .....	" " .....	5, 43
		.....	galena, sphalerite etc.....	5, 43
		" .....	.....	5
111	.....	in Beekmantown limestone.....	.....	5, 124

## COUNTY

made land; deep excavations may however develop mineral localities.

## COUNTY

112	.....	granite boulder.....	.....	5, 28
113	.....	on mica schist.....	stillbite.....	43
114	.....	granite vein.....	orthoclase, prochlorite.....	5
		" .....	epidote.....	5, 43, c
115	.....	.....	dolomite.....	e
	.....	.....	siderite.....	e
116	.....	in mica schist.....	kalinite.....	61
		" .....	.....	61
		" .....	.....	61
		quartz vein.....	oligoclase, muscovite.....	5
		" .....	" tourmalin.....	c
		" .....	muscovite " .....	c
117	xx	" .....	" " .....	c
		in mica schist.....	muscovite .....	43

## NEW YORK

NO.	LOCALITY	SPECIES	DESCRIPTION
118	Between 42d and 51st st. and 4th and 5th av.	cyanite	
119	49th st. and 1st av.	beryl	
120	Between 54th and 62d st., 10th av. to river	amphibole	hydrous anthophyllite
		serpentine	dark green
121	55th-56th st. and 1st-3d av.	siderite	sphaerosiderite
122	69th-70th st. and 2d av.	ilmenite	
		garnet	
123	64th st. and 10th av.	stilbite	small sheaflike aggregates
124	65th st. and Boulevard	garnet	large, handsome crystals
		orthoclase	crystals
125	10th av.	vesuvianite	
		garnet	
126	85th-86th st. and 9th-10th av.	siderite	sphaerosiderite
		albite	small fine crystals
127	95th-105th st. and 3d-Lexington av.	ilmenite	
		garnet	
		stilbite	
		datolite	
128	100th-101st st. and 5th av.	epidote	granular, decomposed
		albite	small fine crystals
		ilmenite	thin plates
		chabazite	translucent flesh-colored crystals
129	102d st. and 4th av.	garnet	crystals
		tourmalin	black
130	4th av. tunnel excavations	stilbite	radiated aggregates
		harmotome	small brown crystals
		apophyllite	
		natrolite	
131	120th st. and Hudson river	staurolite	small crystals
132	115th-122d st. and 4th-5th av.	dumortierite	azure blue
		sillimanite	fibrolite
133	138th st. and 11th av.	epidote	
134	155th st. and 10th av.	xenotime	small well modified crystals
		monozite	
		zircon	small acutely terminated crystals
		garnet	" rough crystals

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
118		in hornblende schist.....	oligooclase, quartz, garnet.....	43
119 x		" .....		161
120	"	mica schist.....	serpentine.....	5, 43
	"	" .....	amphibole.....	43
121	"	" .....		c
122	"	" .....	orthoclase.....	c
	"	" .....	" .....	c
123	"	" .....	pyrite.....	e
124 xx	"	" .....	albite.....	e
	"	" .....	muscovite.....	e
125		granite boulder.....	orthoclase, garnet.....	c
	"	" .....	vesuvianite.....	c
126		in crystalline schist.....	muscovite.....	c
	"	" .....	" .....	c
127		in mica schist.....	garnet, albite.....	c
	"	" .....	ilmenite.....	c
	on	" .....	datolite.....	5
	"	" .....	stilbite.....	5
128	in	" .....	mica.....	w
	"	" .....	on epidote.....	w
		in hornblende schist.....	clinochlore.....	e
	"	" .....	" .....	e
129		in mica schist.....	tourmalin.....	e
	"	" .....		e
130	on	" .....	harmotome.....	5, 8
	"	" .....	stilbite etc.....	5
	"	" .....	" .....	8
	"	" .....	" .....	8
131		in mica schist.....	garnet.....	5, 43
132 xx	"	pegmatite vein.....	oligoclase, quartz.....	43, 49, 165
	"	mica schist.....		43
133	"	hornblende schist.....		43
134 x	"	pegmatite vein.....	monozite.....	138, 70
	"	" .....	zircon, garnet.....	138
		in pegmatite vein.....	garnet, quartz.....	e
	"	" .....	zircon, quartz.....	e

## NEW YORK

NO.	LOCALITY	SPECIES	DESCRIPTION
135	159th st. and 11th av.....	beryl.....	small opaque crystals.....
136	Washington h'ts 171st st & 11th av....	xenotime.....	small yellowish brown crystals....
		monozite.....	small crystals and parallel growths.....
		zircon.....	small, slender, prismatic crystals..
		dumortierite ..	filiform inclusions and fibrous....
		muscovite.....	large crystals.....
		autunite.....	.....
137	176th-178th st. and 11th av.....	rutile.....	.....
		tourmalin.....	black.....
		garnet.....	almandite.....
138	180th st. & 10th av. (C. A. shaft 26)...	serpentine .....	.....
		rutile.....	.....
139	200th st. and 10th av.....	cyanite.....	light yellow.....
140	Fort George.....	tourmalin.....	black.....
		muscovite.....	green rhombic crystals.....
		garnet.....	grossularite .....
		titanite.....	greenish yellow crystals.....
		orthoclase.....	crystallized .....
		oligoclase.....	moonstone.....
		zircon.....	minute crystals.....
		amphibole.....	hornblende and actinolite .....
		malachite.....	radiating tufts.....
		stilbite.....	sheaflike aggregates.....
		epidote.....	small brilliant crystals also gran'lar
141	1/2 m. s. of Kings bridge.....	amphibole.....	tremolite .....
		prochlorite.....	.....
		titanite.....	brown and black.....
142	Inwood.....	amphibole.....	hydrous anthophyllite .....
		tourmalin.....	small brown crystals.....
		pyroxene.....	.....
143	Kings bridge (ship canal).....	pyrite.....	small brilliant crystals.....
		rutile.....	acicular, striated crystals.....
		pyroxene.....	malacolite .....
		tourmalin.....	green and brown prisms trigonal
		habit.....	habit .....
		amphibole.....	tremolite.....

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
135		in pegmatite vein.....	quartz.....	e
136	x	" .....	monozite, tourmalin.....	82
	x	" .....	xenotime, tourmalin.....	82
		" .....	" .....	82
		" .....	" .....	82
		" .....	" .....	82
		" .....	quartz, muscovite.....	82
137		in mica schist.....	calcite.....	e
		" pegmatite vein .....	quartz, orthoclase.....	e
		" .....	" .....	e
138				131
		in crystalline limestone.....	pyrite.....	e
139		in pegmatite vein.....	orthoclase.....	e
140		" .....	" quartz.....	e
	xx	" .....	" .....	e
		" .....	" muscovite .....	e
	x	" .....	" .....	e
		" .....	muscovite, tourmalin.....	e
		" .....	quartz.....	e
		" .....	" tourmalin.....	e
		" .....	orthoclase, quartz.....	e
	x	" .....	" .....	e
		" .....	" .....	e
		" .....	" .....	e
141		in dolomitic limestone.....	graphite.....	5
		" .....	amphibole.....	5
		" .....	" .....	5
142		" .....	serpentine .....	43
		" .....		43
				m
143	x	in dolomitic limestone.....	rutile, amphibole.....	5, 43, 133
		" .....	quartz, dolomite.....	5, 133
		" .....	tourmalin, muscovite.....	43
		" .....	amphibole pyrite.....	5, 43
		" .....	rutile.....	5, 43

## NEW YORK

NO.	LOCALITY	SPECIES	DESCRIPTION
	Kings bridge (ship canal).....	muscovite.....	pale green, transparent crystals...
		quartz.....	clear and smoky crystals.....
		dolomite.....	crystals and massive.....
144	1m. n.e. Central bridge.....	clinochlore.....	green scales.....
145	Tremont (H. R. R. cut).....	kaolinite.....	gray, red and yellow.....
146	Morrisania.....	tourmalin.....	brown.....
147	Spuyten Duyvil.....	amphibole.....	asbestos.....
148	West Farms.....	titanite.....	small, reddish brown prisms.....
		epidote.....	.....
		amphibole.....	tremolite.....
		chabazite.....	crystals lining walls of seams.....
		heulandite.....	".....
		stilbite.....	".....
		apatite.....	.....
		garnet.....	.....

## NIAGARA

Lewiston			
149	.....	epsomite.....	.....
		calcite.....	lining geodes.....
		chalcopyrite.....	.....
Lockport			
150	Lockport (canal cutting).....	celestite.....	lamellar, white and bluish white, opaque to transparent. Lining geodes.....
		calcite.....	white and yellow dogtooth spar.....
		gypsum.....	selenite and snowy.....
		anhydrite.....	blue, massive.....
		fluorite.....	occasionally in cubes.....
		dolomite.....	white & pink crystals lining geodes.....
		sphalerite .....	honey and wax yellow crystals, often transparent.....
Niagara			
151	Niagara Falls.....	calcite.....	crystals lining geodes.....
		dolomite.....	pink to white crystals.....
		fluorite.....	.....
152	Niagara Falls, Goat island.....	sphalerite.....	in imperfect crystals.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
		in dolomitic limestone.....	amphibole, pyrite.....	5, 43, 133
		" .....	dolomite pyrite.....	133, c, e
		" .....	quartz etc.....	5, 133
144		" .....		43
145		" .....		123, 126
146		in pegmatite vein .....		e
147		" mica schist.....		43
148		granite dikes.....	epidote, amphibole.....	5, 43
		" .....	amphibole, orthoclase .....	5, 43
		" .....	quartz etc.....	5, 43
		" .....	stilbite, heulandite.....	5, 43
		" .....	chabazite, stilbite.....	5, 43
		" .....	heulandite.....	5, 43
		in mica schist.....	garnet, muscovite.....	5, 43
		" .....	muscovite.....	5, 43

## COUNTY

149		on limestone.....		43
	in	" .....		5
		" .....	malachite (?).....	5
150	x	in Niagara limestone .....	calcite, dolomite etc.....	5, 43, k
xx		" .....	dolomite, celestite etc.....	43, k
x		" .....	" anhydrite.....	5, 43, k
x		" .....	calcite, gypsum.....	5, 43, k
x		" .....	celestite " .....	5, 43, k
x		" .....	calcite, celestite, gypsum.....	5, 43, k
		" .....		5, 43
151	x	in Niagara limestone.....	dolomite, celestite.....	43
x		" .....	calcite, celestite, gypsum.....	5, 43
		" .....	" .....	43
152		in Lockport limestone.....		5, 43

## ONEIDA

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Boonville</b>			
153	near Boonville w. bank Dry Sugar river	calcite..... wollastonite..... pyroxene..... garnet.....	prismatic and nail head crystals .. ..... coccolite..... .....
<b>Kirkland</b>			
154	Clinton, near Hamilton College.....	sphalerite..... strontianite..... celestite.....	yellow, nearly transparent crystals .. in geodes, coating celestite..... in geodes.....
155	Elliott and Paddon mines.....	hematite.....	oolitic.....
<b>New Hartford</b>			
156	Davis ore bed.....	hematite..... wollastonite....	oolitic..... fibrous.....
<b>Rome</b>			
157	near Rome.....	sphalerite.....	yellow, massive.....
<b>Vernon</b>			
158	near Vernon.....	".....	".....
<b>Verona</b>			
158a	Verona .....	hematite .....	oolitic.....

## ONONDAGA

	<b>Camillus</b>		
159	Camillus railroad cut.....	gypsum..... sulfur..... calcite.....	selenite and fibrous..... small masses in beds of earthy..... gypsum..... small incrusting crystals & fibrous.....
<b>Manlius</b>			
160	Fayetteville 1m. n. of town.....	gypsum..... fluorite.....	occasionally in crystals, selenite..... deep purple cubes.....
<b>Salina</b>			
161	Liverpool.....	gypsum.....	fibrous.....
162	Syracuse.....	halite..... serpentine..... perofskite..... celestite..... gypsum..... barite.....	brine solution from wells etc..... ..... ..... ..... selenite..... interlaced plates.....

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
153	x . . . . .	veins in limestone . . . . .		43
	x . . . . .	in boulders . . . . .	garnet pyroxene . . . . .	5, 43
	x . . . . .	" . . . . .	" wollastonite . . . . .	5, 43
		" . . . . .	pyroxene " . . . . .	5, 43
154		in shale and sandstone . . . . .	hematite . . . . .	5
		" Clinton and Niagara limestone . . . . .	celestite . . . . .	43, 168
		" . . . . .	strontianite . . . . .	43
155	*† . . . . .	in shale and limestone . . . . .		149, 194
156	* . . . . .	" . . . . .		149, 194
		" . . . . .		71
157				5
158				5
158a	*† . . . . .	Clinton shale and limestone . . . . .		149

## COUNTY

159		in Salina waterlime . . . . .	sulfur . . . . .	5, 43
		" . . . . .	gypsum . . . . .	5
		" . . . . .	" . . . . .	43
160		" . . . . .	fluorite . . . . .	5, 43, p
		" . . . . .	gypsum . . . . .	5, 43
161		in Salina . . . . .		186
62	* . . . . .	" . . . . .		66, 121, 192
	x . . . . .	" . . . . .	perofskite . . . . .	225, 226
		" . . . . .	serpentine . . . . .	226
		" . . . . .	gypsum, barite . . . . .	43
		" . . . . .	celestite " . . . . .	43
		" . . . . .	gypsum, celestite . . . . .	5, 43

## ONTARIO

The Devonian rocks of this county have been suc-  
ORANGE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Blooming Grove</b>			
163	Craigsville.....	quartz .....	crystals and heliotrope .....
164	1/2m. n.w. Washingtonville.....	labradorite.....	
<b>Cornwall</b>			
165	Deer hill 3m. s. of Cornwall.....	ilmenite.....	
<b>Highlands</b>			
166	Bog Meadow pond 3m. w. of W. Point	zircon.....	white, reddish brown & black.....
		chondrodite .....	granular.....
		spinel .....	black and green .....
		orthoclase .....	white, opalescent .....
		epidote.....	massive and somewhat fibrous.....
		pyroxene.....	coccolite.....
		amphibole.....	
167	4m. s.e. Woodbury furnace.....	" .....	
		calcite.....	
		fosterite.....	boltonite .....
		magnetite .....	
		spinel.....	
168	Forest of Dean mine .....	pyroxene.....	coccolite, sahlite.....
	5m. s.w. West Point .....	forsterite.....	boltonite .....
		spinel .....	large crystals, black and green.....
		magnetite .....	
		amphibole.....	pargasite .....
		wernerite.....	
		zircon .....	reddish brown and black .....
169	West Point.....	molybdenite.....	
		amphibole.....	tremolite, actinolite.....
		tourmalin.....	
		garnet.....	common.....
		epidote.....	
		pyroxene.....	diallage .....
		orthoclase.....	in crystals often flesh-color .....
		mica.....	
		wernerite.....	large, white, compact masses .....
		titanite.....	
		allanite.....	tabular crystals .....

**COUNTY**

cessfully drilled for natural gas in several localities.

**COUNTY**

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
163		veins in slate.....		5, 43
164				43, 74
165				5, 43
				5, 43
166	x	in crystalline limestone.....	chondrodite, spinel.....	5, 43
	x	" .....	spinel etc.....	5, 43
	x	" .....	chondrodite, zircon .....	5, 43
	x	" .....	epidote .....	5
	x	" .....	orthoclase .....	5, 43
		" .....		43
		" .....		5, 43
167		in gneiss limestone contact.....	spinel etc.....	5, 43
		" .....	amphibole.....	74
	x	" .....		74
		" .....		74
		" .....		74
168	x	in crystalline limestone .....	spinel wernerite .....	74, 43
		" .....	pyroxene.....	74
	x	" .....	" .....	43, 74, 5
*		" .....	spinel, pyroxene.....	74, 149, 194
		" .....	" .....	43, 74
		" .....	" .....	43, 74
		" .....	" .....	43, 74
169		in gneiss.....	tourmalin.....	35
	x	" syenite.....		35
		" gneiss.....	molybdenite.....	35
		" .....	tourmalin.....	35
		" .....	" pyroxene.....	35
		" .....	" titanite.....	35, 95
	x	" .....	" .....	5, 43
	x	" .....	" .....	43
		" .....	pyroxene.....	5, 43
	x	" .....	" .....	43
		" .....	" wernerite .....	43, 10

## ORANGE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Highlands (continued)</b>			
170	West Point, Constitution island.....	molybdenite.....	
		magnetite.....	
<b>Monroe</b>			
171	O'Neil mine 1m. e. Mombasha.....	magnetite.....	large grains.....
	2m. s.w. Turners.....	garnet.....	colophonite.....
		pyroxene.....	large, greenish black crystals.....
		".....	coccolite, green.....
		amphibole.....	hornblende, amianthus.....
		serpentine.....	yellow and black.....
		dimagnetite.....	perhaps a magnetic pseudomorph after ilvaite.....
		biotite.....	
		hortonolite.....	
172	Clove mine near Turners.....	biotite.....	
		amphibole.....	hornblende, asbestos.....
		orthoclase.....	
		serpentine.....	
		hydrophite.....	jenkinsite.....
		calcite.....	
		chromite.....	
<b>Mt Hope</b>			
173	Erie mine, Guymard.....	galena.....	
<b>Tuxedo</b>			
174	Tuxedo Park.....	epidote.....	
175	$\frac{1}{2}$ m. e. Arden.....	pyroxene.....	green, grayish green and gray crys- tals.....
		biotite.....	anomite.....
		chondrodite.....	light yellow grains.....
		spinel.....	black and green.....
		wernerite.....	meionite.....
		amphibole.....	hornblende.....
176	3m. s.e. Arden.....	pyroxene.....	salite, coccolite.....
177	Greenwood furnace, Arden.....	".....	diopsid.....
		chondrodite.....	
		biotite.....	anomite.....
		spinel.....	

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
170		in gneiss.....		35
		" .....		35
171 x*†	"		serpentine, pyroxene .....	149
x.	"		" .....	5, 43, 74, 149
	"		magnetite, garnet.....	5, 74
	"		" .....	5, 74, 149
	"		" .....	5, 43, 74
	"		" .....	5, 43, 74
	"		" .....	43, 181
xx	"		" .....	43
	"		on pyroxene.....	139
172		in limestone.....	serpentine, amphibole etc.....	5
		" .....	biotite.....	5, 43
	"			5
	"			5
	"			191
	"			5
	"			5
173 *†		in limestone.....		5
174 x.				5, 43
175 xx.		in crystalline limestone .....	mica.....	5, 43
xx.	"		pyroxene.....	5
x.	"		spinel.....	5, 43
x.	"		chondrodite.....	5, 43
x.	"		pyroxene, mica.....	5, 43
	"		" .....	5, 43
176	"			5, 43
177 xx.		in gneiss.....	wernerite, spinel.....	51, 43
x.	"		spinel.....	43
xx.	"		wernerite, pyroxene.....	43
x.	"		" .....	43

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Tuxedo (continued)</b>		
	Greenwood furnace, Arden .....	wernerite.....	
		amphibole.....	
		ilmenite.....	
	<b>Warwick</b>		
178	1m. s.w. Amity.....	spinel.....	green, black, brown and red very large crystals.....
		chondrodite....	rounded grains and crystals.....
		corundum.....	white, blue and reddish crystals...
		tourmalin.....	yellow and cinnamon crystals....
		clinochlore....	leuchtenbergite.....
		phlogopite.....	
		fluorite.....	
		amphibole.....	large and perfect crystals.....
		magnetite.....	in scattered grains.....
		ilmenite.....	interesting crystals.....
		garnet.....	grossularite.....
179	1m. s.e. Amity .....	spinel.....	large octahedral crystals.....
		corundum.....	bluish white.....
		amphibole.....	hornblende.....
180	Amity.....	spinel.....	grayish red, twinned octahedrons..
		warwickite.....	
		seybertite.....	clintonite.....
		talc.....	common and foliated varieties...
		ilmenite.....	fine crystals.....
		garnet.....	cinnamon brown crystallized and massive.....
		wernerite.....	milk white crystals, dendritic surfaces.....
		pyroxene.....	light brown crystals, leucaugite...
		" .....	augite and cocolite.....
		enstatite.....	bronzite.....

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
	x.....	in gneiss.....	pyroxene.....	43
		".....	ilmenite.....	43
		".....	amphibole.....	43
178	xx.....	in granular limestone and serpentine....	chondrodite, hematite.....	5, 43, 176
	x.....	".....	spinel, tourmalin.....	43
	x.....	".....	" rutile.....	5, 43
	x.....	in calcite.....	".....	5, 43, 74
		".....	amphibole, phlogopite.....	43
		".....	" fluorite.....	43
		".....	spinel, tourmalin.....	43, 74
	x.....	".....	phlogopite, graphite.....	5, 43, 74, 176
		".....	chondrodite.....	43
	x.....	".....	spinel.....	176, 74
		".....	amphibole etc.....	74
179	x.....	in crystalline limestone.....	corundum.....	74, 176
		".....	amphibole spinel.....	74, 176
		".....	spinel, corundum .....	74, 176
180	xx.....	".....	ilmenite.....	5, 43, 74,
		".....	".....	176, 212
		".....	".....	43, 178, 190
	x.....	".....	".....	5, 43, 74
	xx.....	".....	" seybertite.....	5, 43
		".....	spinel.....	5 43, 85
	x.....	in crystalline limestone.....	pyroxene.....	43, 176
	x.....	".....	" titanite.....	5, 43, 74,
				176
	xx.....	".....	calcite, seybertite.....	5, 41, 43,
				119, 159
		".....	wernerite, titanite.....	74, 176
		".....	spinel, pyroxene.....	57, 176

## ORANGE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Warwick (continued)</b>			
	Amity (continued) . . . . .	amphibole . . . . .	pargasite, amianthus . . . . .
		vesuvianite . . . . .	grayish and yellowish brown crystals, xanthite . . . . .
		titanite . . . . .	in small crystals . . . . .
		zircon . . . . .	large brown crystals (rare) . . . . .
		orthoclase . . . . .	crystallized . . . . .
		tourmalin . . . . .	clove brown . . . . .
		rutile . . . . .	brown to pale red crystals . . . . .
		chondrodite . . . . .	pink . . . . .
181	2m. s.w. Amity . . . . .	apatite . . . . .	fine crystals, emerald and bluish green . . . . .
		rutile . . . . .	dark blue terminated prisms . . . . .
182	2m. s.e. Amity . . . . .	epidote . . . . .	rich grass-green crystals . . . . .
183	2m. w. Amity . . . . .	rutile . . . . .	black, gray and reddish brown crystals . . . . .
184	Edenville . . . . .	chondrodite . . . . .	blood-red, orange and buff . . . . .
		titanite . . . . .	light brown crystals . . . . .
		tourmalin . . . . .	gray, bluish, green and black . . . . .
		scorodite . . . . .	small crystals and druses . . . . .
		arsenopyrite . . . . .	crystals and massive . . . . .
		leucopyrite . . . . .	abundant . . . . .
		warwickite . . . . .	hair-brown grains . . . . .
		yttrocerite . . . . .	purple . . . . .
		sphalerite . . . . .	opaque, black . . . . .
		vesuvianite . . . . .	.....
		quartz . . . . .	hornstone . . . . .
185	1m. n. of Edenville . . . . .	orthoclase . . . . .	crystallized . . . . .
		fluorite . . . . .	.....
		amphibole . . . . .	tremolite and hornblende . . . . .
		vesuvianite . . . . .	.....
		tourmalin . . . . .	.....
		titanite . . . . .	.....
		spinel . . . . .	.....
		zircon . . . . .	red and white . . . . .
		orpiment . . . . .	slight traces . . . . .

**COUNTY** (*continued*)

## ORANGE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Warwick (continued)</b>			
186	southern base of Mt Eve 2½m. n. of Edenville.....	amphibole..... pyroxene..... wernerite..... zircon..... orthoclase..... spinel..... fluorite.....	edenite, dark hair-brown crystals..... gray crystals..... ..... chocolate brown crystals..... ..... ..... purple.....
187	1m. n. w. Edenville.....	pyroxene..... amphibole..... muscovite..... rutile..... chondrodite.....	augite..... dark green, gray or brown crystals..... six sided and rhombic prisms..... ..... .....
188	4m. w. Edenville .....	ilmenite.....	.....
189	1m. e. Edenville.....	rutile .....	.....
190	1m. s. Edenville.....	amphibole.....	dark green, gray or brown crystals.....
191	Warwick.....	spinel..... serpentine .....	soft, pseudomorphous crystals..... sometimes in large pseudomor- phous crystals..... ilmenite..... pyroxene..... amphibole..... warwickite.....
192	Rocky hill 3m. s.e. Warwick .....	magnetite .....	.....
		marcasite .....	terminated crystals .....
		titanite.....	large grayish brown crystals.....
		zircon.....	brown.....
		rutile .....	square terminated prisms.....
		wernerite.....	.....
		orthoclase .....	interesting crystals.....
		tourmalin.....	.....
		seybertite .....	clintonite .....
193	2m. e. Warwick.....	magnetite..... marcasite..... arsenopyrite..... pyrite..... molybdenite.....	..... ..... ..... in cubes..... in irregular plates.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
186	xx . . .	in crystalline limestone . . . . .	wernerite, pyroxene . . . . .	5, 43, 176
	x . . . .	" . . . . .	" zircon . . . . .	5, 43, 176
	.....	" . . . . .	pyroxene . . . . .	5, 43, 176
	x . . . .	" . . . . .	" wernerite . . . . .	5, 43, 176
	.....	" . . . . .		5, 43
	.....	" . . . . .		176
	.....	" . . . . .		176
187	x . . . .	" . . . . .	amphibole . . . . .	5, 43
	x . . . .	" . . . . .	pyroxene mica . . . . .	5, 43, 74, 176
	.....	" . . . . .	" . . . . .	5, 43, 176
	.....	" . . . . .	" . . . . .	5, 43, 176
	.....	" . . . . .		74, 141
188	.....	gneiss limestone contact . . . . .	spinel chondrodite . . . . .	5, 43
189	.....	in limestone boulders . . . . .	amphibole . . . . .	5, 43
190	.....	" crystalline limestone . . . . .	titanite chondrodite . . . . .	5, 43
191	xx . . . .	" . . . . .	serpentine . . . . .	5, 43
	xx . . . .	" . . . . .	pyroxene spinel . . . . .	5, 43
	.....	" . . . . .	spinel, chondrodite . . . . .	5, 43
	.....	" . . . . .	amphibole, spinel . . . . .	5, 43
	.....	" . . . . .	pyroxene, spinel . . . . .	5, 43
	.....	" . . . . .	" . . . . .	178, 190, a
192	*† . . . .	in gneiss . . . . .		194
	.....	" . . . . .	magnetite . . . . .	176
	.....	" . . . . .	zircon etc . . . . .	5, 43
	.....	" . . . . .	orthoclase, tourmalin . . . . .	43, 176
	.....	" . . . . .	zircon . . . . .	176
	.....	" . . . . .	" amphibole . . . . .	5, 43
	xx . . . .	" . . . . .	tourmalin zircon . . . . .	5, 43
	.....	" . . . . .	orthoclase . . . . .	43
	x . . . .	" . . . . .	" . . . . .	43
193	*† . . . .	in limestone . . . . .	garnet . . . . .	74, 176
	.....	" . . . . .	zircon . . . . .	5, 43
	.....	" . . . . .	mica, pyrite . . . . .	43
	.....	" . . . . .	marcasite . . . . .	5
	.....	" . . . . .	rutile, zircon, pyrite . . . . .	5, 43

## ORANGE

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Warwick (continued)</b>		
2	m. e. Warwick.....	rutile.....	octagonal prisms.....
		quartz.....	small ferruginous crystals.....
		garnet.....	.....
194	Sterling mines, Sterling lake .....	magnetite.....	granular.....
		amphibole.....	crystals.....
		pyroxene.....	.....
		epidote.....	small crystals.....
		orthoclase.....	red and white .....
		tourmalin.....	.....
	<b>Woodbury</b>		
195	Queensbury forge 2½ m. s. w. Fort Montgomery.....	spinel.....	black and green.....
		sillimanite.....	monrolite, bucholzite.....
		garnet.....	colophanite.....
		rastolite.....	.....
		amphibole.....	.....
		ilmenite.....	good crystals.....
		pyrrhotite .....	.....
		pyrite.....	massive.....
196	Bradley mine n. Cedar pond.....	magnetite.....	crystals embedded in calcite.....
		pyrrhotite .....	.....
		apatite.....	crystals embedded in calcite.....
		pyroxene.....	granular and short green crystals.....
		titanite.....	crystals embedded in calcite.....
197	Fall hill 3 m. e. Central Valley.....	wernerite.....	white and bluish.....
198	Twin lakes (Two ponds).....	pyroxene.....	gray to brown prismatic crystals.....
		wernerite.....	large reddish white crystals.....
		chondrodite.....	granular, light yellow.....
		zircon.....	large crystals.....
		amphibole.....	green actinolite and hornblende.....
		titanite.....	abundant in large crystals.....
		apatite.....	.....

## ORLEANS

The rocks of this county afford no recorded mineral

## OSWEGO

The rocks of this county have been successfully drilled

## OTSEGO

The rocks of this county afford no recorded mineral

**COUNTY** (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
194 *	x.....	in limestone .....	zircon.....	5, 43
	.....	" .....	" .....	5, 43
	.....	" .....	" .....	74
	.....	in gneiss.....	apatite.....	149, 194
	.....	" .....	pyroxene.....	160
	.....	" .....	epidote.....	160
	.....	" .....	pyroxene.....	160
195	x.....	" .....	magnetite, tourmalin .....	160
	.....	" .....	quartz.....	160
	x.....	" .....	mica, garnet, magnetite.....	5, 43
	.....	" .....	" .....	5, 43
	x.....	" .....	mica, spinel etc.....	5, 43
	.....	" .....	" .....	43
	.....	in serpentine and white limestone.....	" .....	43
196 *	.....	" .....	spinel, chondrodite, rutile .....	5, 43
	x.....	" .....	" .....	43
	.....	" .....	" .....	5, 43
	.....	in gneiss.....	calcite.....	160
	.....	" .....	" .....	160
	.....	vein in gneiss.....	calcite, augite.....	160
	.....	" .....	apatite, titanite etc.....	160
197	.....	" .....	pyroxene, apatite.....	160
	.....	in gneiss.....	lamellar pyroxene.....	5, 43
198	xx.....	in crystalline limestone.....	wernerite, zircon etc.....	5, 43
	xx.....	" .....	pyroxene, titanite.....	5, 43
	x.....	" .....	spinel.....	5, 43
	x.....	" .....	wernerite, pyroxene.....	5, 43
	.....	" .....	" .....	5, 43
	.....	" .....	" .....	5, 43
	.....	" .....	" .....	5, 43

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

for natural gas; no notable mineral localities are recorded.

**COUNTY**

localities of sufficient importance to note in this list.

## PUTNAM

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Carmel</b>			
199	near Carmel, boulder in road.....	epidote.....	sharp, well defined crystals.....
200	2m. s. Carmel.....	".....	translucent crystals and massive.....
201	Mahopac group of mines.....	magnetite.....	medium fine grained.....
<b>Kent</b>			
202	2m. n.e. Carmel.....	amphibole.....	actinolite.....
203	Brown's quarry 4m. n.w. Carmel.....	arsenopyrite....	in good crystals.....
		amphibole.....	radiated anthophyllite.....
<b>Patterson</b>			
204	1m. w. Towners.....	pyroxene.....	grayish white crystals.....
		calcite.....	scalenohedral crystals.....
		amphibole.....	asbestos and tremolite.....
		dolomite.....	
		pyrite.....	massive.....
<b>Philipstown</b>			
205	Cold Spring.....	titanite.....	
		epidote.....	
		pyroxene.....	
206	Hustis quarry 4m. n.e. Cold Spring.....	amphibole.....	tremolite, amianthus.....
		serpentine.....	many varieties.....
		titanite.....	
		pyroxene.....	diopsid, green cocolite.....
		wernerite.....	small white opaque crystals.....
		dolomite.....	semiopaline, conchoidal fracture.....
		serpentine.....	
207	Cotton rock 3½m. s. of Garrisons (this locality has been obliterated by the N.Y.C.R.R. embankment)	amphibole.....	silky amianthus.....
		pyroxene.....	diallage and augite.....
		stilbite.....	crystals and fanlike groups.....
		laumontite.....	occurs sparingly.....
<b>Putnam Valley</b>			
208	Denny and Todd mines 6m. n.e. Peekskill	magnetite.....	
		chromite.....	
		calcite.....	small crystals on magnetite.....
209	Phillips' ore bed (this bed outcrops at intervals in the towns of Philip- town and Putnam Valley following a valley formerly known as Cano- pus hollow).....	magnetite.....	
		pyrite .....	massive .....
		amphibole.....	actinolite.....
		opal.....	hyalite in thin coatings.....

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
199	x	in granite boulder.....	.....	6
200	.....	in gneiss.....	amphibole, garnet.....	5, 43
201	*†	" .....	.....	149, 194
202	.....	in gneiss.....	.....	5
203	.....	" .....	amphibole.....	43
.....	.....	serpentine in gneiss.....	arsenopyrite, epidote.....	5, 43
204	xx	in dolomitic limestone.....	.....	5, 43
.....	x	" .....	asbestos.....	43
.....	x	" .....	calcite.....	5, 43
.....	.....	" .....	" .....	43
.....	.....	" .....	.....	5, 43
205	†	in gneiss.....	.....	5, 43
.....	.....	" .....	.....	5, 43
.....	.....	" .....	.....	5, 159
206	*†	in crystalline limestone.....	serpentine.....	5, 43, g
.....	x*†	" .....	.....	5, g
.....	.....	" .....	.....	43, g
.....	.....	" .....	serpentine, apatite.....	5, 159
.....	.....	" .....	titanite, apatite, quartz.....	5, 43, g
.....	*†	" .....	.....	5, 43
207	†	" .....	amphibole.....	5, 43
.....	†	" .....	serpentine.....	5, 43
.....	†	" .....	" .....	5, 43
.....	†	" .....	.....	5, 43
.....	†	" .....	.....	5, 43
208	*†	gneiss limestone contact.....	chromite .....	43, 149, 194
.....	.....	" .....	.....	43
.....	.....	" .....	magnetite chromite.....	5, 43
209	*†	in gneiss.....	.....	5, 43, 194
.....	.....	" .....	magnetite, amphibole.....	5, 43
.....	.....	" .....	" .....	5, 43
.....	.....	on "	.....	43

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Southeast</b>		
210	Tilly Foster mine 2m. n.w. Brewster...	chondrodite....	deep red crystals, highly modified
		clinohumite....	"
		humite.....	"
		magnetite.....	dodecahedral crystals and massive
		dolomite.....	
		serpentine .....	light and dark green, mottled with red.....
		" .....	pseudomorphs in many forms.....
		brucite.....	crystallized and pseudomorph after dolomite.....
		enstatite.....	
		clinochlore.....	in large crystals.....
		prochlorite.....	
		biotite.....	
		amphibole.....	actinolite, light green fibrous .....
		pyrrhotite .....	
		fluorite.....	colorless to purple crystals .....
		albite .....	
		epidote.....	small crystals.....
		titanite.....	transparent greenish crystals often twinned.....
		hydrotalcite....	white fibrous.....
		calcite.....	scalenohedral and nail head types.
		garnet.....	oil-green dodecahedral crystals.....
		apatite.....	
		datolite.....	
		stilbite.....	
		prehnite.....	
		apophyllite.....	
		tourmalin.....	
		molybdenite.....	
		pyroxene.....	dark green cocolite.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
210	xx.....	in gneiss.....	magnetite, clinochlore.....	1, 16, 37, 38, 43, 141, 170
	x.....	".....	".....	43, 141
	x.....	".....	".....	43, 141
	x*†.....	".....	serpentine, clinochlore.....	43, 149, 170, 194
	x.....	".....	magnetite, chondrodite.....	43, 170
	x.....	".....	".....	16, 43, 170
	x.....	".....	".....	42, 43
	x.....	".....	prochlorite.....	42, 43, 170
	x.....	".....	".....	16, 43, 170
	xx.....	".....	chondrodite.....	16, 43, 170
		".....	clinochlore.....	16, 43, 170
		".....		16, 43
		".....		5, 16, 43
		".....		43, 170
		".....	calcite.....	43, 170
		".....		43
		".....	pyroxene, amphibole.....	43, 170
	xx.....	".....	magnetite, apatite .....	43
	x.....	".....	" prochlorite.....	w
		".....	brucite, dolomite.....	170
		".....		43, 170
	x.....	".....		43
		".....		43
		".....		43
	x.....	".....		43
		".....		43, w
		".....	magnetite, serpentine .....	w
		".....	hornblende, epidote.....	w

## COUNTY

made land; deep excavations may however develop mineral localities.

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Brunswick</b>			
211	Lansingburg.....	quartz.....	large doubly terminated crystals.....
212	South Troy.....	" .....	" .....

**RICHMOND COUNTY**

213	Tompkinsville <sup>a</sup> and southward to New Dorp.....	serpentine <sup>b</sup> .....	red and green (slickensides).....
		" .....	asbestos and amianthus.....
		talc.....	greenish white, foliated.....
		dolomite.....	.....
		brucite.....	white, foliated.....
		magnesite .....	massive in veins and cavities.....
		aragonite.....	minute needlelike crystals.....
		chromite.....	minute octahedrons.....
		pyrolusite.....	thin dendrites.....
		deweylite.....	.....
		anhydrite.....	massive.....
214	iron mines w. of Concord and w. of Garretsons.....	limonite.....	oolitic and spongy.....
		quartz.....	green quartz in small crystals.....
215	Rossville on shore of Arthur kill.....	lignite.....	.....
		pyrite.....	crystals and nodules.....

**ROCKLAND**

	<b>Haverstraw</b>		
216	Ladentown 1½ m. n.w. of Pomona.....	cuprite.....	.....
		malachite.....	.....
		zircon.....	brilliant brown to black crystals.....
217	Haverstraw.....	amphibole.....	hornblende in small crystals.....
<b>Orangetown</b>			
218	Piermont, excavations for the Erie R. R. ....	datolite.....	.....
		stilbite.....	in minute crystals.....
		apophyllite.....	.....
		pectolite.....	.....
		prehnite.....	.....

<sup>a</sup>A fresh exposure occurs in Westervelt av. between 1st and 2d av.<sup>b</sup>Serpentine also occurs in frequent outcrops along the ridge extending southwest from

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
211	x			e
212				e

## AND BOROUGH

213		serpentine rock.....	talc, brucite etc.....	5, 43, 94
	x	" .....	" .....	5, 43, 94, 144
	x	" .....	serpentine, magnesite.....	5, 43
	x	" .....	" .....	5, 43
		" .....	" .....	5, 43
		" .....	serpentine, brucite.....	5, 43
		" .....	" .....	43
		" .....	serpentine.....	w
		" .....	on talc.....	w
		" .....	serpentine, brucite.....	w
		" .....	talc, brucite.....	w
214	*†	serpentine.....	yellow clay and quartz.....	18, 23, 67 149
		" .....	limonite.....	67
215		in clay.....	pyrite.....	5, 43
		" .....	lignite.....	5, 43

## COUNTY

216		in red Triassic shale.....	malachite.....	5, 43
		" .....	cuprite.....	43
		in granite boulder.....		5, 43
217		" shale.....		5
218		in diabase.....	apophyllite, stilbite.....	43
		" .....	datolite, zeolites.....	5, 43
		" .....	" .....	5, 43
		" .....	" .....	5, 43
		" .....	calcite.....	5, 43

## ROCKLAND

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Orangetown (continued)</b>			
	Piermont, excavations for the Erie		
	R. R. (continued).....	thomsonite.....	
		chabazite.....	
		calcite.....	in minute crystals.....
		tourmalin.....	
<b>Stony Point</b>			
219	Dunderberg mine n. side Dunderb'g mt	magnetite.....	lean ore.....
220	Stony Point, north shore.....	zoisite.....	
		pyroxene.....	green augite.....
		amphibole.....	hornblende, light green.....
		titanite.....	
		pyrite.....	small crystals.....
		chrysolite.....	
		garnet.....	
		staurolite.....	minute crystals.....
221	Tomkins Cove.....	calcite.....	white and yellowish crystals.....
		barite.....	minute tabular crystals.....
222	2½m. n.w. Grassy Point.....	amphibole.....	radiated and interlaced actinolite.....
		orthoclase.....	minute crystals.....
		epidote.....	small granular masses.....

## ST LA WRENCE

<b>Canton</b>			
223	Pyrite mines 2m. s. Canton .....	pyrite.....	massive .....
		chalcopyrite .....	
		hematite .....	
		calcite.....	
		serpentine .....	
		talc.....	rensselaerite.....
		tourmalin.....	brown.....
		titanite .....	
		pyroxene.....	
<b>De Kalb</b>			
224	3m. s. DeKalb Junction.....	" .....	diopsid, transparent crystals .....
		datolite .....	rare.....
225	5m. s.w. DeKalb Junc. (Mitchel farm).	pyroxene.....	diopsid.....
		calcite.....	crystallized and massive.....
		quartz .....	

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
		in diabase.....	zeolites, calcite.....	5, 43
		" .....	" .....	5, 43
		" .....	" .....	5, 43
		" .....	.....	a
219 *†	" gneiss.....		pyrite.....	194
220	" diorite limestone contact.....		amphibole, pyroxene.....	5, 45, 228
	" .....		" .....	45, 96, 159, 228
	" .....		pyroxene.....	5, 45, 96, 228
	" .....		amphibole wernerite.....	159, 228
	on peridotite.....		calcite .....	e
	in "		.....	96, 44
	" diorite.....		.....	44
	" mica schist.....		.....	44
221 x	" Stockbridge limestone.....		.....	5, 43
	" .....		calcite .....	5
222	in limestone.....		epidote etc.....	5
	" .....		amphibole, epidote.....	5
	" .....		orthoclase " .....	5

## COUNTY

223 x*	gneiss limestone contact.....	chalcopyrite .....	43
	" .....	pyrite.....	43
	" .....	.....	43
x	" .....	.....	43
	in granular limestone.....	.....	43
	" .....	.....	43
	" .....	.....	43
	" .....	.....	43
	" .....	.....	43
224 xx	gneiss limestone contact .....	pockets in clay .....	5, 43, 151
	" .....	pyroxene.....	43
225 xx	in clay pockets in talc .....	calcite.....	5, 43, 151, w
	" .....	pyroxene quartz.....	w
	" .....	.....	w

## ST LAWRENCE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>De Kalb (continued)</b>			
226	3m. w. De Kalb Junction	talc.....	massive fibrous.....
		tourmalin.....	colorless glassy crystals.....
		amphibole.....	dark green hornblende.....
		phlogopite.....	.....
		serpentine.....	.....
227	near Osborn's lake.....	fluorite.....	large cubic crystals.....
		tourmalin.....	.....
		calcite .....	crystals.....
		barite.....	.....
		amphibole.....	white and gray tremolite.....
		phlogopite.....	.....
228	Richville.....	barite.....	long tabular crystals .....
<b>Edwards</b>			
229	Talcville, talc mines.....	talc.....	massive, fibrous.....
		amphibole.....	hexagonite schist of interlaced crystals.....
		pyrolusite.....	small but perfect dendrites.....
		enstatite.....	rather rare.....
230	Anthony mine 2m. s. Edwards.....	amphibole.....	actinolite, tremolite.....
		wernerite.....	.....
		apatite.....	.....
		phlogopite.....	light green and sea-green plates...
		hematite.....	.....
		magnetite.....	.....
		serpentine.....	.....
<b>Fine</b>			
231	Scott farm.....	oligoclase.....	crystals, moonstone.....
		pyroxene.....	brilliant crystals.....
		zircon.....	.....
		titanite.....	.....
		fluorite.....	.....
		calcite.....	.....
		pyrite.....	.....
232	Benson mines.....	magnetite.....	.....
233	Clifton mines.....	" .....	.....

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
226*	"	in limestone	amphibole.....	w
	xx	"	" pyroxene.....	43
	x	"	pyroxene.....	43,
	x	"	" amphibole.....	43
		"		43
227	x	in gneiss.....	calcite .....	43
	x	"	" fluorite .....	43
		"	fluorite .....	43
		"	calcite, fluorite .....	43
		"	phlogopite.....	5, 43
		"	amphibole etc.....	43
228	xx	in limestone.....		24, 43
229*	"	in gneiss.....		136, 137,
				171, 172,
				200, 202,
				203, 205
	xx	in gneiss.....	amphibole.....	43, 205
	x	on talc.....		w
		in limestone.....	amphibole.....	43, 205
230	xx	gneiss limestone contact.....	apatite, wernerite.....	43
		"	" amphibole etc.....	43
		"	" .....	43
	xx	"	wernerite, apatite.....	c
		"		43
		"		43
		"		5, 43
231	x	granite limestone contact.....	pyroxene.....	43, c
	x	"	oligoclase.....	43, c
	x	"	titanite.....	43
		"	zircon, apatite.....	43
	x	in limestone.....	calcite, pyrite.....	43
	x	"	fluorite.....	43
		"	" calcite.....	43
232*†		in gneiss.....		149, 194
233*†		"		194

## ST LAWRENCE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Fowler</b>			
234	Fullerville iron works.....	hematite.....	
		quartz.....	pyramidal crystals.....
		barite.....	tabular crystals.....
235	Belmont farm.....	sphalerite.....	
		galena.....	
<b>Gouverneur</b>			
236	4½ m. n. of Gouverneur.....	tourmalin.....	brown crystals highly modified.....
		amphibole.....	short green crystals, also tremolite.....
		pyroxene.....	
		apatite.....	large crystals.....
		titanite.....	brilliant black crystals.....
		phlogopite.....	large sheets dark brown.....
		pyrite.....	crystallized.....
237	1 m. s.w. of Gouver. (marble quarries) .....	tourmalin.....	plentiful brown crystals.....
		amphibole.....	tremolite.....
		wernerite.....	
		serpentine.....	pseudomorphs and verd antique.....
		fluorite.....	etched and twinned cubes.....
238	1½ m. n.e. of Gouverneur.....	garnet.....	almandite.....
239	1 m. s. of Gouverneur.....	orthoclase.....	large crystals.....
		pyroxene.....	gray and dark green.....
		apatite.....	
		vesuvianite.....	
		titanite.....	
		talc.....	rensselaerite.....
		serpentine.....	
		fluorite.....	
240	Elmdale (Smith Mills), 4½ m. w. Gouverneur.....	amphibole.....	massive fibrous tremolite.....
		vesuvianite.....	
		biotite.....	
		graphite.....	
		barite.....	crystalline.....
<b>Hammond</b>			
241	near De Long's mills.....	apatite.....	large crystals.....
		zircon.....	large crystals containing nucleus.....
		orthoclase.....	luxoclase, white to bluish crystals.....

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
234		limestone gneiss contact.....	quartz.....	43
	x	" .....	hematite.....	5, 43
		" .....	" .....	43
235		vein traversing serpentinite.....	galena.....	5, 43
		" .....	sphalerite.....	43
236	xx	in Grenville limestone.....	amphibole, apatite.....	5, 43
	xx	" .....	apatite, tourmalin.....	5, 43
	x	" .....	" .....	5, 43
	x	" .....	wernerite, titanite.....	5, 43, 80
	x	" .....	tourmalin, pyroxene.....	5, 43
	x	" .....	.....	c
		" .....	tourmalin, calcite.....	
237	xx	" .....	calcite.....	5, 43, 25
	xx	" .....	" .....	5, 43
	xx	" .....	.....	5, 43
	xx	" .....	calcite.....	5, 43
	x	" .....	" .....	43, c
238	*	vein in gneiss.....	quartz.....	w
239		limestone granite contact.....	" pyroxene.....	5, 43
	x	" .....	amphibole, tourmalin.....	5, 43, 159
		" .....	pyroxene, titanite.....	43
		" .....	.....	43, 79
		" .....	apatite, pyroxene.....	43
	x	in limestone.....	serpentinite.....	43
		" .....	talc.....	5, 43
		" .....	.....	43
240	xx	gneiss limestone contact.....	biotite, graphite.....	43, 79
		" .....	.....	43
		" .....	.....	43
		" .....	.....	43
		in limestone.....	fluorite, calcite.....	79
241	xx	in crystalline limestone.....	wernerite, titanite.....	5, 43
	xx	" .....	apatite.....	5, 43
	x	" .....	" pyroxene.....	5, 43

## ST LAWRENCE

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Hammond (continued)</b>		
	near De Long's mills (continued).....	amphibole.....	pargasite and tremolite.....
		phlogopite.....	.....
		pyroxene.....	grayish white and green.....
		barite.....	snow white crested variety.....
		pyrite.....	crystals.....
		fluorite.....	purple.....
	<b>Hermon</b>		
242	Lowden mine 1m. n.e. of Hermon:.....	hematite.....	.....
		quartz.....	pyramidal.....
		amphibole.....	pargasite.....
		pyroxene.....	.....
		tourmalin.....	.....
243	Dodge ore bed.....	siderite.....	bent crystals.....
		serpentine.....	.....
		limonite.....	bog iron ore.....
	<b>Macomb</b>		
244	1½m. n. Elmdale (Smiths Mills).....	fluorite.....	masses of large green cubes.....
		calcite.....	Rossie type, small crystals.....
		pyrite.....	concretionary aggregates of crys- tals.....
245	St Lawrence Min. Co.'s mines, 1m. e. Macomb .....	galena.....	massive.....
		sphalerite.....	.....
246	1m. n.e. Macomb.....	tourmalin.....	dark brown and black.....
		pyroxene.....	small glassy crystals.....
		amphibole.....	.....
		albite.....	peristerite.....
		graphite.....	.....
		phlogopite.....	.....
		wernerite.....	.....
		apatite.....	.....
247	Ingram farm.....	tourmalin.....	dark brown and black.....
		graphite.....	.....
248	Pope's Mills.....	phlogopite.....	.....
		barite.....	.....

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
	x.....	in crystalline limestone.....	apatite, pyroxene.....	43
	x.....	" .....	" .....	43
	.....	" .....	zircon, orthoclase.....	5, 159
	.....	" .....	pyrite.....	43
	.....	" .....	.....	43
	.....	" .....	.....	43
242 *	.....	in gneiss.....	.....	194
	x.....	" .....	hematite.....	5, 43
	.....	" .....	.....	43
	.....	" .....	.....	43
	.....	" .....	.....	43
243	.....	in limestone.....	.....	5, 43
	.....	" .....	.....	5, 43
	.....	" .....	.....	43
244 xx†	.....	in crystalline limestone.....	calcite, pyrite.....	43, 116
	.....	" .....	fluorite " .....	43, w
	.....	in crystalline limestone.....	fluorite, calcite.....	w
245 *†	.....	veins in limestone.....	calcite.....	43, w
*†	.....	" .....	galena, calcite.....	43, w
246 xx	.....	in crystalline limestone.....	pyroxene, amphibole.....	43
x .....	" .....	tourmalin " .....	159, c	
.....	" .....	albite, pyroxene.....	43	
x .....	" .....	graphite " .....	43	
x .....	" .....	pyroxene, wernerite.....	43	
x .....	" .....	.....	43	
.....	" .....	.....	43	
247 xx	.....	gneiss limestone contact.....	graphite.....	43
	.....	" .....	orthoclase.....	43
248 x .....	" .....	.....	.....	43
	" .....	.....	.....	43

## ST LAWRENCE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Morristown</b>			
249	Mineral point, 2m. n.e. Hammond.....	galena..... sphalerite..... fluorite..... calcite.....	large clear crystals.....
<b>Oswegatchie</b>			
250	Ogdensburg.....	labradorite.....	
<b>Pierrepont</b>			
251	1 m.e. West Pierrepont .....	tourmalin..... phlogopite..... pyroxene.....	brilliant black crystals..... ..... transparent, tabular crystals.....
252	farms of Wells and Vaughn.....	amphibole..... pyroxene..... oligoclase.....	..... ..... .....
253	Pierrepont.....	wernerite..... albite .....	large gray and white crystals..... peristerite.....
<b>Pitcairn</b>			
254	1 m. n.e. East Pitcairn .....	zircon..... microcline..... pyroxene..... titanite..... phlogopite..... gypsum.....	fine crystals..... white rounded crystals..... brilliant green crystals..... pale red and brown crystals..... ..... satin spar.....
255	2 m. e. East Pitcairn.....	pyroxene..... titanite..... fluorite..... zircon..... calcite.....	large crystals..... large pale red and brown crystals..... ..... large, greenish, prismatic crystals..... .....
<b>Potsdam</b>			
256	boulder in road near Crary's Mills.....	orthoclase..... tourmalin..... biotite..... amphibole.....	large crystals..... black "..... ..... .....

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
249		vein in gneiss.....	sphalerite, calcite.....	5, 43
		" .....	galena .....	5, 43
		" .....	" .....	5, 43
		" .....	" sphalerite .....	5
250		in granite boulder.....		43
251	xx	limestone gneiss contact.....	quartz .....	43
x		" .....	" .....	43
		" .....	" amphibole.....	43, 159
252		in gneiss.....	pyroxene, oligoclase.....	43
		" .....		43
		" .....		43
253	x	limestone gneiss contact.....	pyroxene.....	43, c
		" .....	" wernerite.....	43
		" .....	wernerite.....	43
254	xx	limestone granite contact.....	microcline .....	43
x		" .....	pyroxene .....	43
x		" .....	microcline, zircon.....	43
		" .....	" pyroxene.....	43, 223
		" .....		43
		" .....		43
255	x	granite vein.....	titanite, zircon .....	43
x		" .....	zircon .....	43, 223
x		" .....	calcite.....	43
x		" .....	titanite, pyroxene.....	43
		" .....	fluorite.....	43
256	x	granite boulder.....	quartz, pyroxene.....	5, 43
x		" .....		43
x		" .....		43
		" .....		43

## ST LAWRENCE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Rossie</b>			
257	Rossie lead mines 2m. s. Rossie.....	galena.....	crystallized and massive.....
		pyrite.....	crystals often highly modified.....
		calcite.....	large twinned crystals.....
		celestite.....	delicate blue.....
		chalcopyrite.....	crystals.....
		hematite.....	.....
		cerussite.....	rare.....
		anglesite.....	.....
		fluorite.....	rarely in fine octahedral crystals.....
258	iron mines, Somerville.....	hematite.....	laminated structure.....
		barite.....	in flattened crystals.....
		pyrite.....	crystals.....
		quartz.....	large implanted crystals.....
259	Somerville.....	spinel.....	rose and reddish brown.....
		hydrotalcite.....	houghite.....
		dolomite.....	.....
		ragonite.....	flos ferri.....
		phlogopite.....	in large plates.....
		wernerite.....	.....
260	2m. n.w. Somerville.....	chondrodite.....	yellow grains.....
		spinel.....	rose and reddish brown.....
		hydrotalcite.....	houghite.....
261	3m. n. Oxbow (Yellow lake).....	chondrodite.....	yellow grains.....
		orthoclase.....	.....
		amphibole.....	bright green pargasite.....
		apatite.....	small, transparent, green crystals.....
		pyroxene.....	.....
		titanite.....	.....
		zircon.....	.....
		wernerite.....	large, light yellowish green crystals
		phlogopite.....	in large sheets.....
		gahnite.....	automolite.....
		fluorite.....	.....
		dolomite.....	.....
		graphite.....	.....
262	near Grasse lake.....	pyroxene.....	hemihedral crystals.....
		wernerite.....	greenish.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
257	x*† . . .	vein in limestone . . . . .	calcite, pyrite . . . . .	5, 43, 211.
	xx† . . .	" . . . . .	galena, calcite . . . . .	5, 9, 43
	xx† . . .	" . . . . .	" sphalerite . . . . .	5, 9, 43.
	x† . . .	" . . . . .	calcite . . . . .	43
	..... . . .	" . . . . .	galena, sphalerite . . . . .	5, 43
	..... . . .	" . . . . .	" . . . . .	43
	..... . . .	" . . . . .	galena . . . . .	43
	..... . . .	" . . . . .	" . . . . .	5, 43
	..... . . .	" . . . . .	calcite . . . . .	5, 43
258	* . . .	synclinal fold of Potsdam sandstone . . . . .		194
x . . .	in limestone vein . . . . .	quartz dolomite . . . . .	43	
x . . .	" green shale . . . . .	" . . . . .	5, 43	
x . . .	..... . . . . .		5, 43	
259	..... . . . . .	in limestone and serpentine . . . . .	chondrodite . . . . .	5, 43
	..... . . . . .	" . . . . .	serpentine . . . . .	43, 93, 180 <sup>b</sup>
	..... . . . . .	..... . . . . .	" . . . . .	43
	..... . . . . .	..... . . . . .	dolomite etc . . . . .	80
x . . .	..... . . . . .			43
	..... . . . . .			5, 43
260	x . . . . .	in limestone . . . . .	spinel . . . . .	5, 43
	..... . . . . .	" . . . . .	chondrodite . . . . .	43
x . . . . .	" . . . . .	spinel . . . . .	93, 180 <sup>b</sup>	
261	..... . . . . .	limestone gneiss contact . . . . .		43
xx . . . . .	" . . . . .			43
xx . . . . .	" . . . . .	pyroxene, orthoclase . . . . .	5, 43, w	
x . . . . .	" . . . . .	" . . . . .	43, w	
x . . . . .	" . . . . .	wernerite, orthoclase . . . . .	43	
	" . . . . .	" . . . . .	43	
xx . . . . .	" . . . . .	quartz, titanite etc . . . . .	43, w	
x . . . . .	" . . . . .	" . . . . .	43, w	
..... . . . . .	in limestone . . . . .	dolomite . . . . .	43	
..... . . . . .	" . . . . .	" . . . . .	43	
..... . . . . .	" . . . . .		43	
..... . . . . .	" . . . . .		43	
262	xx . . . . .	limestone gneiss contact . . . . .	wernerite, titanite . . . . .	43, 159, 229 <sup>b</sup>
x . . . . .	" . . . . .	pyroxene, graphite etc . . . . .	43	

## ST LAWRENCE

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Rossie (continued)</b>			
	near Grasse lake (continued) . . . . .	graphite . . . . .	fine crystals . . . . .
		orthoclase . . . . .	luxoclase . . . . .
		titanite . . . . .	pale red and brown crystals . . . . .
	Webster farm . . . . .	apatite . . . . .	large crystals . . . . .
	" . . . . .	zircon . . . . .	
		amphibole . . . . .	tremolite in short crystals . . . . .
263	2m. n. Rossie . . . . .	wernerite . . . . .	greenish . . . . .
		pyroxene . . . . .	large green crystals . . . . .
		titanite . . . . .	brown crystals . . . . .
		tourmalin . . . . .	
		phlogopite . . . . .	
<b>Russell</b>			
264	Buskirk farm, 1m. n.e. Russell (?) . . . . .	danburite . . . . .	abundant fine crystals . . . . .
		datolite . . . . .	rare . . . . .
		wernerite . . . . .	
		pyroxene . . . . .	small green crystals . . . . .
		tourmalin . . . . .	black . . . . .
		amphibole . . . . .	
		phlogopite . . . . .	
		albite . . . . .	
		quartz . . . . .	massive and crystallized . . . . .
		calcite . . . . .	
265	Moore farm e. Russell . . . . .	pyroxene . . . . .	short, greenish black crystals . . . . .
		amphibole . . . . .	fine, white cryst's doubly termin'd
		wernerite . . . . .	long white prismatic crystals . . . . .
		phlogopite . . . . .	
266	1½m. n.w. North Russell . . . . .	pyroxene . . . . .	fine grayish green crystals . . . . .
		phlogopite . . . . .	large sheets . . . . .
		apatite . . . . .	crystals and massive . . . . .
		calcite . . . . .	pinkish massive . . . . .
		molybdenite . . . . .	disseminated . . . . .
		titanite . . . . .	black crystals . . . . .
		labradorite . . . . .	grayish brown massive . . . . .

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
263	xx . . . . .	limestone gneiss contact . . . . .	pyroxene, wernerite . . . . .	5, 43
	xx . . . . .	" . . . . .	" . . . . .	5, 43
	x . . . . .	" . . . . .	" . . . . .	5, 43
	.....	" . . . . .	orthoclase . . . . .	w
	.....	" . . . . .	titanite etc . . . . .	w
	.....	" . . . . .	.....	43
	x . . . . .	" . . . . .	pyroxene . . . . .	43
	x . . . . .	" . . . . .	orthoclase, apatite . . . . .	43, 159
	x . . . . .	" . . . . .	" . . . . .	5, 43
	x . . . . .	" . . . . .	" . . . . .	43
264	xx . . . . .	cavities and seams in gneiss . . . . .	pyroxene . . . . .	22, 43, 219
	.....	" . . . . .	" . . . . .	43
	.....	gneiss limestone contact . . . . .	" . . . . .	43
	.....	" . . . . .	wernerite, danburite . . . . .	43
	.....	" . . . . .	quartz . . . . .	43
	.....	" . . . . .	pyroxene . . . . .	43
	.....	" . . . . .	" . . . . . wernerite . . . . .	43
	.....	" . . . . .	" . . . . . quartz . . . . .	43
	.....	" . . . . .	danburite . . . . .	43
	.....	" . . . . .	.....	43
265	xx . . . . .	in gneiss . . . . .	wernerite, amphibole . . . . .	43, 159
	xx . . . . .	" . . . . .	" . . . . . pyroxene . . . . .	43
	x . . . . .	" . . . . .	pyroxene . . . . .	43, c
	.....	" . . . . .	" . . . . .	43
266	xx . . . . .	gneiss limestone contact . . . . .	calcite, titanite . . . . .	w
	xx . . . . .	" . . . . .	pyrite inclusions . . . . .	w
	x . . . . .	" . . . . .	calcite . . . . .	w
	.....	" . . . . .	apatite, pyroxene etc . . . . .	w
	.....	" . . . . .	calcite . . . . .	w
	x . . . . .	" . . . . .	pyroxene, labradorite . . . . .	w
	.....	" . . . . .	" . . . . . titanite . . . . .	w

## SARATOGA

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Greenfield</b>			
267	1m. n.w. Highrock spring Saratoga in Mt McGregor ridge.....	chrysoberyl..... garnet..... tourmalin..... muscovite..... orthoclase..... apatite..... graphite.....	pale yellowish green crystals..... pink grossularite..... black crystals..... reddish brown crystals..... transparent adularia..... reddish brown crystals..... .....

## SCHENECTADY

The rocks of this county afford no recorded mineral

## SCHOHARIE

	<b>Carlisle</b>		
268	2m. w. Central Bridge .....	calcite..... barite.....	crystallized and fibrous..... fibrous .....
<b>Esperance</b>			
269	Ball's cave 4m. n. of Schoharie .....	calcite .....	crystals and stalactites .....
<b>Middleburg</b>			
270	4m. w. Schoharie on b'k small stream..	" .....	geodes lined with crystals.....
271	1½m. e. of Middleburg.....	" .....	obtuse rhombohedrons.....
<b>Schoharie</b>			
272	Schoharie e. of courthouse.....	strontianite..... celestite..... barite.....	columnar and granular masses .. fibrous, blue .. " calcareous ..
273	2m. n.e. Schoharie.....	strontianite..... barite..... calcite.....	crystals in geodes .. massive .. " ..
274	3m. n.e. Schoharie, near Foxes creek ..	aragonite.....	radiating crystals .....
275	1m. w. of Schoharie .....	pyrite..... barite .....	single and twinned crystals .. fibrous .....
276	Howes Cave .....	calcite..... aragonite..... pyrite.....	crystals and stalactites .. slender radiating crystals .. nodular aggregates .....
<b>Sharon</b>			
277	Sharon Springs .....	calcite .....	calcareous tufa .....

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
267	xx . . . . .	in granite, traversing gneiss . . . . .	quartz, tourmalin, garnet . . . . .	5, 43, 210
	xx . . . . .	" . . . . .	" " mica . . . . .	5, 43, 210
	xx . . . . .	" . . . . .	" garnet etc. . . . .	5, 43, 210
	x . . . . .	" . . . . .	chrysoberyl. . . . .	5, 43, 210
	x . . . . .	" . . . . .	" tourmalin. . . . .	5, 43, 210
	... . . . .	" . . . . .	graphite. . . . .	5, 43
			apatite. . . . .	43

## COUNTY

localities of sufficient importance to note in this list

## COUNTY

268	.....	in Helderberg limestone . . . . .	barite. . . . .	43
	.....	" . . . . .	calcite. . . . .	43
269	.....	in hydraulic limestone. . . . .		5, 43
270	.....	in limestone. . . . .		5
271	.....	" veins in limestone . . . . .		5
272	xx . . . . .	thin veins in hydraulic limestone. . . . .	barite, calcite . . . . .	5, 43, 63, 177
	.....	" . . . . .	strontianite calcite. . . . .	5, 43, 63
	.....	" . . . . .		43, 63
273	.....	in hydraulic limestone. . . . .	barite, calcite. . . . .	43, 63, 177
	.....	" . . . . .	strontianite calcite. . . . .	43, 63
	.....	" . . . . .	pyrite. . . . .	43, 63
274	x . . . . .	" . . . . .		63
275	xx . . . . .	in blue slate. . . . .		5, 43, 63
	.....	vein in blue slate. . . . .		63
276	x . . . . .	in hydraulic limestone. . . . .		5, 43
	.....	" . . . . .	calcite. . . . .	h
	.....	in shale. . . . .		w
277	.....	in limestone near springs. . . . .		5

**SCHUYLER**

The rocks of this county afford no recorded mineral

**SENECA**

The rocks of this county afford no recorded mineral

**STEUBEN**

The rocks of this county afford no recorded mineral

**SUFFOLK**

The surface rocks of this county consist of glacial drift and afford

**SULLIVAN**

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Mamakating</b>			
278	Wurtzboro, lead mine.....	galena.....	mainly massive.....
		sphalerite.....	.....
		chalcopyrite.....	.....
		pyrite.....	.....

**TIOGA**

The rocks of this county afford no recorded mineral

**TOMPKINS**

The rocks of this county afford no recorded mineral

**ULSTER**

<b>Kingston</b>			
279	Rondout, cement mines.....	calcite.....	flat rhombohedrons, pyrite inclusions.....
<b>Marbletown</b>			
280	High Falls.....	quartz.....	crystals showing phantom of smoky quartz.....
		pyrite.....	cubic.....
		marcasite.....	small crystals.....
<b>Wawarsing</b>			
281	Ellenville, lead mine.....	pyrite.....	pyritohedral crystals.....
		galena.....	crystals rare.....
		chalcopyrite.....	" well modified.....
		quartz.....	in groups and isolated crystals.....
		sphalerite.....	massive black.....
		brookite.....	small, brilliant crystals.....
		pyrite.....	.....

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

no mineral localities of sufficient importance to note in this list.

**COUNTY**

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
278	*†.....	in quartzite.....	sphalerite, chalcopyrite.....	5, 43
	.....	" .....	galena.....	5, 43
	.....	" .....	" sphalerite.....	5, 43
	.....	" .....	" "	5, 43

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

localities of sufficient importance to note in this list.

**COUNTY**

279	x.....	in Helderberg limestone.....	quartz.....	h, p
	xx .....	" .....	calcite.....	p
	.....	" .....	" .....	p
	x.....	" .....	" .....	h, w
280	.....	in Helderberg limestone.....		5
281	*.....	vein in quartzite.....	chalcopyrite, sphalerite.....	5, 43
	xx .....	" .....	quartz " .....	5, 43
	xx .....	" .....	chalcopyrite.....	5, 43
	.....	" .....	galena, chalcopyrite.....	5, 43
	x.....	" .....	quartz.....	43
	.....	" .....	chalcopyrite.....	43

## WARREN

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Caldwell</b>		
282	Diamond island, Lake George .....	quartz.....	similar to Herkimer county.....
		calcite.....	white to yellow nail head crystals..
		dolomite.....	.....
	<b>Chester</b>		
283	e. Loon lake.....	pyrite.....	crystallized.....
		chalcopyrite.....	imperfect crystals.....
		rutile.....	.....
		tourmalin.....	.....
	<b>Hague</b>		
284	Sabbath Day Point.....	epidote.....	common massive.....
		wernerite.....	.....
		titanite.....	.....
285	Graphite 4m. w. Hague.....	graphite.....	leafy masses.....
		apatite.....	small crystals.....
		garnet.....	large red crystals.....
	<b>Johnsburg</b>		
286	Moore's mine, Gore mountain.....	garnet.....	massive.....
		pyroxene.....	coccolite.....
287	North River Garnet Co.'s m., Oven mt.	garnet.....	massive.....
		pyroxene.....	coccolite.....
	<b>Queensbury</b>		
288	Glens Falls.....	calcite.....	crystals of lenticular form.....
		dolomite.....	well defined crystals.....
	<b>Thurman</b>		
289	Thurman.....	fluorite.....	.....
		zircon.....	large and interesting crystals.....
		graphite.....	irregular shaped masses.....
		serpentine .....	yellowish green.....
		pyrite.....	fine crystals.....
		garnet.....	almondite.....
	<b>Warrensburg</b>		
290	Warrensburg iron mine.....	magnetite.....	.....

## WASHINGTON

Fort Ann	
291	1m. n. Fort Ann.....
	graphite.....
	pyroxene.....
	quartz.....
292	Shelving Rock.....
	serpentine..... yellowish green, translucent.....

## COUNTY

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
282 x . . . . .	Beekmantown limestone . . . . .		calcite . . . . .	5, 43
x . . . . .	" . . . . .		quartz . . . . .	43
.....	" . . . . .		" . . . . .	5
283 x . . . . .	crystalline limestone . . . . .		tourmalin, rutile . . . . .	5, 43
.....	" . . . . .		" . . . . .	43
.....	" . . . . .			5, 43
.....	" . . . . .			5, 43
284 . . . . .	in gneiss . . . . .			5
.....	" . . . . .		titanite . . . . .	f
.....	" . . . . .		wernerite . . . . .	f
285 * . . . . .	quartzite and limestone . . . . .		quartz . . . . .	111
.....	" . . . . .		zircon . . . . .	111
.....	in gneiss . . . . .		sillimanite . . . . .	111
286 * . . . . .	in hornblende schist . . . . .		pyroxene . . . . .	112, e
.....	" . . . . .		garnet . . . . .	w
287 * . . . . .	" . . . . .		pyroxene . . . . .	112, e
.....	" . . . . .		garnet . . . . .	w
288 . . . . .	in Trenton limestone . . . . .		dolomite . . . . .	5
.....	" . . . . .		calcite . . . . .	5, 43
289 xx . . . . .	crystalline limestone . . . . .		pyrite etc . . . . .	5, 43
xx . . . . .	in quartz vein . . . . .		graphite . . . . .	5, 9, 43
x . . . . .	" . . . . .		zircon, garnet . . . . .	5
x . . . . .	crystalline limestone . . . . .			5, 43, 132
x . . . . .	" . . . . .			5, 43
.....	in quartz vein . . . . .			e
290 *† . . . . .				194

## COUNTY

291 x . . . . .	gneiss limestone contact . . . . .	pyroxene, quartz . . . . .	5, 43
.....	" . . . . .	quartz . . . . .	5
.....	" . . . . .	graphite . . . . .	5
292 x . . . . .	crystalline limestone . . . . .		5

## WASHINGTON

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Granville</b>		
293		pyroxene.....	lamellar.....
		orthoclase.....	massive.....
		epidote.....	.....
294	Middle Granville.....	pyrolusite.....	dendrites.....
	<b>Putnam</b>		
295	Anthony's Nose.....	hematite.....	mammillary, botryoidal.....

## WAYNE

	<b>Wolcott</b>		
296	Wolcott mine.....	hematite.....	fossil ore.....
		barite.....	pinkish crystals, highly modified.....
297	Ontario mines.....	hematite.....	oolitic ore.....

## WESTCHESTER

	<b>Cortlandt</b>		
298	Anthony's nose 4m. n.w. Peekskill on northern side of mountain.....	pyrrhotite.....	massive.....
		chalcopyrite.....	".....
		magnetite.....	sparingly disseminated.....
		pyroxene.....	.....
		amphibole.....	.....
		apatite.....	small green crystals.....
		calcite.....	tabular crystals coated with quartz.....
299	Crugers.....	pyroxene.....	white.....
		amphibole.....	.....
		staurolite.....	minute crystals.....
		cyanite.....	.....
		sillimanite.....	fibrolite.....
300	emery mines between Crugers and Peekskill.....	corundum.....	emery, intimately mixed with magnetite.....
		magnetite.....	intimately mixed with emery.....
		spinel.....	hercynite.....
		garnet.....	small rounded crystals.....
301	south side of Verplanck Point.....	chrysolite.....	.....
		garnet.....	.....
		staurolite.....	.....
		amphibole.....	gray green actinolite.....
		pyroxene.....	.....

## COUNTY (continued)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
293	x		orthoclase, epidote.....	43
				43
				43
294		in Georgia quartzite and slates.....		43
295		in gneiss.....		27, 111

## COUNTY

296	*†	Clinton formation.....		194
		" .....	hematite.....	43
297	*	" .....		194

## COUNTY

298	*†	in gneiss.....	chalcopyrite.....	5, 43, 101
		" .....	pyrrhotite.....	43, 101
		" .....	" .....	43
		" .....	amphibole, calcite.....	43
		" .....	pyroxene.....	43
		" .....	chalcopyrite.....	43, e
x		" .....		43
299		in norite contact.....	amphibole.....	43, 228
		" .....	pyroxene.....	43
		" .....	sillimanite.....	43, 228
		" .....	" .....	228
		" .....	staurolite .....	43, 228
300	*	in norite.....	spinel garnet.....	43, 228
*		" .....	" .....	43, 228
		" .....	magnetite.....	43
		" .....	" .....	228, w
301		in norite contact.....		44
		" mica schist.....	staurolite.....	44
		" .....	garnet.....	44
		in limestone.....	pyroxene.....	44, 228
		" .....	amphibole.....	228

## WESTCHESTER

NO.	LOCALITY	SPECIES	DESCRIPTION	
	<b>Cortlandt (continued)</b>			
302	Peekskill.....	amphibole..... staurolite..... graphite.....	..... small crystals..... .....	
	<b>Eastchester</b>			
303	Tuckahoe.....	dolomite..... phlogopite..... sphalerite..... pyrite..... chalcopyrite.....	massive..... ..... dark rounded masses..... ..... .....	
	<b>Harrison</b>			
304	1m. w. Port Chester.....	serpentine..... brucite..... chlorite..... tourmalin..... amphibole.....	pinkish brown masses..... ..... ..... black..... tremolite.....	
	<b>Mt Pleasant</b>			
305	Pleasantville.....	muscovite.....	large sheets, magnetite inclusions.....	
	<b>New Rochelle</b>			
306	New Rochelle, Davenport's neck.....	serpentine..... magnesite..... brucite..... amphibole..... enstatite..... chromite..... quartz..... garnet..... titanite..... deweylite..... calcite.....	yellow, green and pinkish..... snow white crusts..... small, imperfect crystals..... actinolite, tremolite and hornblende..... bronzite..... disseminated crystals and grains..... drusy crystals and chalcedony..... small, imperfect crystals..... ..... ..... ..... ..... ..... .....	
	<b>Ossining</b>			
307	Ossining, Prison quarry .....	pyroxene..... amphibole..... pyrite..... graphite.....	malacolite .....	
			tremolite .....	
			small bright crystals .....	
			crystals .....	

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
302	.....	in norite.....		43
	.....	in mica schist.....		43, 223
		" .....		43
303	*	dolomitic limestone.....	pyrite, chalcopyrite.....	5, 43
		" .....		<i>m</i>
		" .....	pyrite, chalcopyrite.....	43
		" .....	dolomite.....	43
		" .....	" .....	43
304	.....	mica schist.....	brucite etc.....	5, 43
	.....	in serpentine.....	serpentine.....	<i>m</i>
		" .....	amphibole.....	5, 43
	.....	in mica schist.....		5, 43
	.....	" serpentine.....	brucite etc.....	5, 43
305	x	.....		<i>e</i>
306	.....	neighboring rock mica schist.....	brucite, chromite.....	5, 43, 129
	.....	on serpentine.....	serpentine, brucite.....	5, 43
		" .....	" etc.....	5, 43
	.....	serpentine.....	enstatite, garnet.....	5, 43, 129
		" .....	amphibole.....	43, 129
		" .....	serpentine.....	5, 43
	.....	vein in serpentine.....	deweylite.....	5, 43, 129
	.....	in mica schist and hornblende rock.....	titanite.....	5, 43
		" .....	garnet.....	43
	.....	vein in serpentine.....	chalcedony.....	129
		" .....	" .....	129
307	x	in dolomitic limestone.....	amphibole.....	5, 43
x	.....	" .....	pyroxene, pyrite.....	43
x	.....	" .....	amphibole.....	43
x	.....	" .....	calcite.....	<i>e</i>

## WESTCHESTER

NO.	LOCALITY	SPECIES	DESCRIPTION
	<b>Ossining (continued)</b>		
	Ossining, Prison quarry (continued)...	quartz .....	chalcedony incrusting dolomite crystals.....
		" .....	crystals, occasionally doubly terminated.....
		dolomite.....	crystals .....
		talc .....	green foliated .....
		rutile.....	slender prismatic crystals.....
		serpentine .....	pseudomorph after pyroxene .....
		calcite.....	scalenohedral crystals.....
308	Sparta, 1m.s. Ossining (old copper mine)	cerussite.....	small prismatic crystals.....
		pyromorphite ..	mammillary incrustations on galena.....
		anglesite.....	.....
		vauquelinite ..	green and brownish concretions .....
		wulfenite.....	sparingly in tabular crystals .....
		vanadinite .....	.....
		galena.....	.....
		chalcopyrite ..	in minute crystals and massive .....
		azurite .....	.....
		malachite.....	.....
		pyrite.....	small crystals .....
		calcite.....	crystals of prismatic habit .....
309	Shafts 3 and 4 New Croton aqueduct		
	4m. s.e. Croton Landing.....	stilbite.....	radiated aggregates.....
310	Shaft 5 New Croton aqueduct, Whitson	rutile.....	.....
		harmotome.....	twin crystals lining vugs.....
		heulandite.....	.....
		stilbite.....	small, sheaflike aggregates.....
		pectolite.....	.....
		beryl.....	.....
		pyrite.....	small bright crystals.....
		barite.....	white crystals and masses.....
		quartz.....	rough, imperfect crystals.....
		calcite.....	modified crystals, P't Henry type
		chrysolite.....	yellow grains.....
		tourmalin.....	minute, transparent, yellow prisms

COUNTY (*continued*)

NO.	QUALITY	GEOLOGIC ASSOCIATION	MINERALOGIC ASSOCIATION	AUTHORITY
308	x.....	in dolomitic limestone.....	dolomite.....	e
	xx.....	" .....	" .....	e
	.....	" .....	talc, mica.....	e
	.....	" .....	dolomite.....	e
	.....	" .....	" quartz.....	e
	xx.....	" .....	pyrite.....	c
	x.....	" .....	dolomite.....	e
	.....	" .....	galena, chalcopyrite .....	5, 43
	.....	in dolomitic limestone.....	galena, chalcopyrite .....	5, 43
	.....	" .....	.....	43
309	.....	" .....	pyromorphite .....	5, 43
	.....	" .....	vanadinite, pyromorphite .....	43
	.....	" .....	wulfenite .....	43
	.....	" .....	chalcopyrite, cerussite .....	43
	.....	" .....	galena .....	5, 43
	.....	" .....	malachite, galena .....	5, 43
	.....	" .....	azurite, galena .....	5, 43
	.....	in gneiss.....	calcite.....	e
	.....	on mica schist.....	.....	e
	.....	.....	.....	.....
310	.....	on gneiss.....	calcite, pyrite .....	e
310	.....	in "	.....	43, e
xx.....	" .....	pyrite, barite .....	43, e	
x.....	" .....	" .....	43	
.....	" .....	.....	43, e	
.....	" .....	.....	43	
.....	" .....	.....	5, 43	
.....	" .....	calcite .....	e	
.....	" .....	" .....	e	
.....	" .....	" .....	e	
.....	" .....	pyrite .....	e	
.....	" .....	prochlorite, tourmalin .....	e	
.....	" .....	chrysolite .....	e	

## WESTCHESTER

NO.	LOCALITY	SPECIES	DESCRIPTION
<b>Yonkers</b>			
311	2½m. n. Yonkers on aqueduct.....	pyrite.....	
		calcite.....	
		amphibole.....	tremolite in radiated aggregates.....
		garnet.....	small, rounded crystals & masses.....
		tourmalin.....	black crystals seldom perfect.....
		stilbite.....	
		muscovite.....	rhombic prisms.....
		apatite.....	transparent crystals.....
		epidote.....	massive and crystals.....
		analcite.....	small, perfect crystals.....
<b>Yorktown</b>			
312	Croton Lake.....	sillimanite.....	fibrolite.....
		monazite.....	good crystals.....

## WYOMING

Salt is obtained in commercial quantities.

## YATES

The rocks of this county afford no recorded minerals.

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**COUNTY**

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**Geologist's annual reports** 1881-date. Rep'ts 1, 3-13, 17-date, O; 2, 14-16, Q.

The annual reports of the early natural history survey, 1837-41 are out of print.

Reports 1-4, 1881-84 were published only in separate form. Of the fifth report four pages were reprinted in the 39th museum report, and a supplement to the 6th report was included in the 40th museum report. The 7th and subsequent reports are included in the 41st and following museum reports, except that certain lithographic plates in the 11th report (1891) and 13th (1893) are omitted from the 45th and 47th museum reports.

Separate volumes of the following only are available.

Report	Price	Report	Price	Report	Price
12 (1892)	\$.50	16	\$1	19	\$.40
14	.75	17	.75	20	.50
15, 2v.	2	18	.75	21	.40

In 1898 the paleontologic work of the State was made distinct from the geologic and will hereafter be reported separately.

**Paleontologist's annual reports** 1899-date.

See fourth note under Geologist's annual reports.

Bound also with museum reports of which they form a part. Reports for 1899 and 1900 may be had for 20c each. Since 1901 these reports have been issued as bulletins.

**Entomologist's annual reports** on the injurious and other insects of the State of New York 1882-date.

Reports 3-17 bound also with museum reports 40-46, 48-55 of which they form a part. Since 1898 these reports have been issued as bulletins. Reports 3-4 are out of print, other reports with prices are:

Report	Price	Report	Price	Report	Price
1	\$.50	8	\$.25	13	\$.10
2	.30	9	.25	14 (Ent. bul. 5)	.20
5	.25	10	.35	15 (" 9)	.15
6	.15	11	.25	16 (" 10)	.25
7	.20	12	.25	17 (" 14)	.30
				18 (" 17)	.20

Reports 2, 8-12 may also be obtained bound separately in cloth at 25c in addition to the price given above.

**Botanist's annual reports** 1867-date.

Bound also with museum reports 21-date of which they form a part; the first botanist's report appeared in the 21st museum report and is numbered 21. Reports 21-24, 29, 31-41 were not published separately.

Separate reports 25-28, 30, 42-50 and 52 (Botany bulletin 3), are out of print. Report 51 may be had for 40c; 53 for 20c; 54 for 50c; 55 (Botany bulletin 5) for 40c; 56 (Botany bulletin 6) for 50c. Since 1901 these reports have been issued as bulletins.

Descriptions and illustrations of edible, poisonous and unwholesome fungi of New York have been published in volumes 1 and 3 of the 48th museum report and in volume 1 of the 49th, 51st, 52d, 54th and 55th reports. The descriptions and illustrations of edible and unwholesome species contained in the 49th, 51st and 52d reports have been revised and rearranged, and, combined with others more recently prepared, constitute Museum memoir 4.

**Museum bulletins** 1887-date. O. To advance subscribers, \$2 a year or 50c a year for those of any one division: (1) geology, economic geology, mineralogy, general zoology, archeology and miscellaneous, (2) paleontology, (3) botany, (4) entomology.

Bulletins are also found with the annual reports of the museum as follows:

Bulletin	Report	Bulletin	Report	Bulletin	Report
12-15	48, v. 1	20-25	52, v. 1	35-36	54, v. 2
16-17	50 "	26-31	53 "	37-44	" v. 3
18-19	51 "	32-34	54 "	45-48	" v. 4
				49-54	55, v. 1

The figures in parenthesis indicate the bulletin's number as a New York State Museum bulletin.

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**Geology.** **G1 (14)** Kemp, J. F. Geology of Moriah and Westport Townships Essex Co. N. Y., with notes on the iron mines. 38p. 7pl. 2 maps, Sep. 1895. *10c.*

**G2 (19)** Merrill, F: J. H. Guide to the Study of the Geological Collections of the New York State Museum. 162p. 119pl. map. Nov. 1898. [50c] *New edition in preparation*

**G3 (21)** Kemp, J. F. Geology of the Lake Placid Region. 24p. 1pl. map. Sep. 1898. *5c.*

**G4 (48)** Woodworth, J. B. Pleistocene Geology of Nassau County and Borough of Queens. 58p. il. 9pl. map. Dec. 1901. *25c.*

**G5 (56)** Merrill, F: J. H. Description of the State Geologic Map of 1901. 42p. 2 maps, tab. Oct. 1902. *10c.*

**G6** Cushing, H. P. Geology of the Vicinity of Little Falls, Herkimer Co. *In preparation.*

— Crystalline Rocks of the Northeastern Adirondacks. *In preparation.*

Kemp, J. F. Crystalline Rocks of Warren and Washington Counties. *In preparation.*

Woodworth, J. B. Glacial Geology of New York. *In preparation.*

**Economic geology.** **Eg1 (3)** Smock, J: C. Building Stone in the State of New York. 152p. Mar. 1888. *Out of print.*

**Eg2 (7)** — First Report on the Iron Mines and Iron Ore Districts in New York. 6+70p. map. June 1889. *Out of print.*

**Eg3 (10)** — Building Stone in New York. 210p. map, tab. Sep. 1890. *40c.*

**Eg4 (11)** Merrill, F: J. H. Salt and Gypsum Industries in New York. 92p. 12pl. 2 maps, 11 tab. Ap. 1893. *40c.*

**Eg5 (12)** Ries, Heinrich. Clay Industries of New York. 174p. 2pl. map. Mar. 1895. *30c.*

**Eg6 (15)** Merrill, F: J. H. Mineral Resources of New York. 224p. 2 maps. Sep. 1895. *50c.*

**Eg7 (17)** — Road Materials and Road Building in New York. 52p. 14pl. 2 maps 34x45, 68x92 cm. Oct. 1897. *15c.*  
*Maps separate 10c each, 2 for 15c.*

**Eg8 (30)** Orton, Edward. Petroleum and Natural Gas in New York. 136p. il. 3 maps. Nov. 1899. *15c.*

**Eg9 (35)** Ries, Heinrich. Clays of New York; their Properties and Uses. 456p. 140pl. map. June 1900. *\$1, cloth.*

**Eg10 (44)** — Lime and Cement Industries of New York; Eckel, E. C. Chapters on the Cement Industry. 332p. 101pl. 2 maps. Dec. 1901. *85c, cloth.*

**Eg11 (61)** Dickinson, H. T. Quarries of Bluestone and other Sandstones in New York. 108p. 18pl. 2 maps. Mar. 1903. *35c.*

**Mineralogy.** **M1 (4)** Nason, F. L. Some New York Minerals and their Localities. 20p. 1pl. Aug. 1888. [10c]

**M2 (58)** Whitlock, H. P. Guide to the Mineralogic Collections of the New York State Museum. 150p. il. 39pl. 11 models. Sep. 1902. *40c.*

**M3 (70)** — New York Mineral Localities. 110p. Sep. 1903. *20c.*

**Paleontology.** **Pa1 (34)** Cumings, E. R. Lower Silurian System of Eastern Montgomery County; Prosser, C: S. Notes on the Stratigraphy of Mohawk Valley and Saratoga County, N. Y. 74p. 10pl. map. May 1900. *15c.*

**Pa2 (39)** Clarke, J: M.; Simpson, G: B. & Loomis, F: B. Paleontologic Papers 1. 72p. il. 16pl. Oct. 1900. *15c.*

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—Dictyonine Hexactinellid Sponges from the Upper Devonian of New York.  
—The Water Biscuit of Squaw Island, Canandaigua Lake, N. Y.  
Simpson, G: B. Preliminary Descriptions of New Genera of Paleozoic Rugose Corals.  
Loomis, F: B. Siluric Fungi from Western New York.

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 Clarke, J: M. Limestones of Central and Western New York Interbedded with Bituminous Shales of the Marcellus Stage.  
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 Clarke, J: M. New Agelacrinites.  
 —Value of *Amnigenia* as an Indicator of Fresh-water Deposits during the Devonian of New York, Ireland and the Rhineland.

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**Museum memoirs** 1889-date. Q.

1 Beecher, C: E. & Clarke, J: M. Development of some Silurian Brachiopoda. 96p. 8pl. Oct. 1889. *Out of print*.

2 Hall, James & Clarke, J: M. Paleozoic Reticulate Sponges. 350p. il. 70pl. 1898. *\$1, cloth*.

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## MUSEUM PUBLICATIONS (continued)

3 Clarke, J: M. The Oriskany Fauna of Beccraft Mountain, Columbia Co. N. Y. 128p. 9pl. Oct. 1900. \$oc.

4 Peck, C: H. N. Y. Edible Fungi, 1895-99. 106p. 25pl. Nov. 1900. 75c. This includes revised descriptions and illustrations of fungi reported in the 49th, 51st and 52d reports of the state botanist.

5 Clarke, J: M. & Ruedemann, Rudolf. Guelph Formation and Fauna of New York State. 196p. 21pl. July 1903. \$1.50, cloth.

6 — Naples Fauna in Western New York. *In press.*

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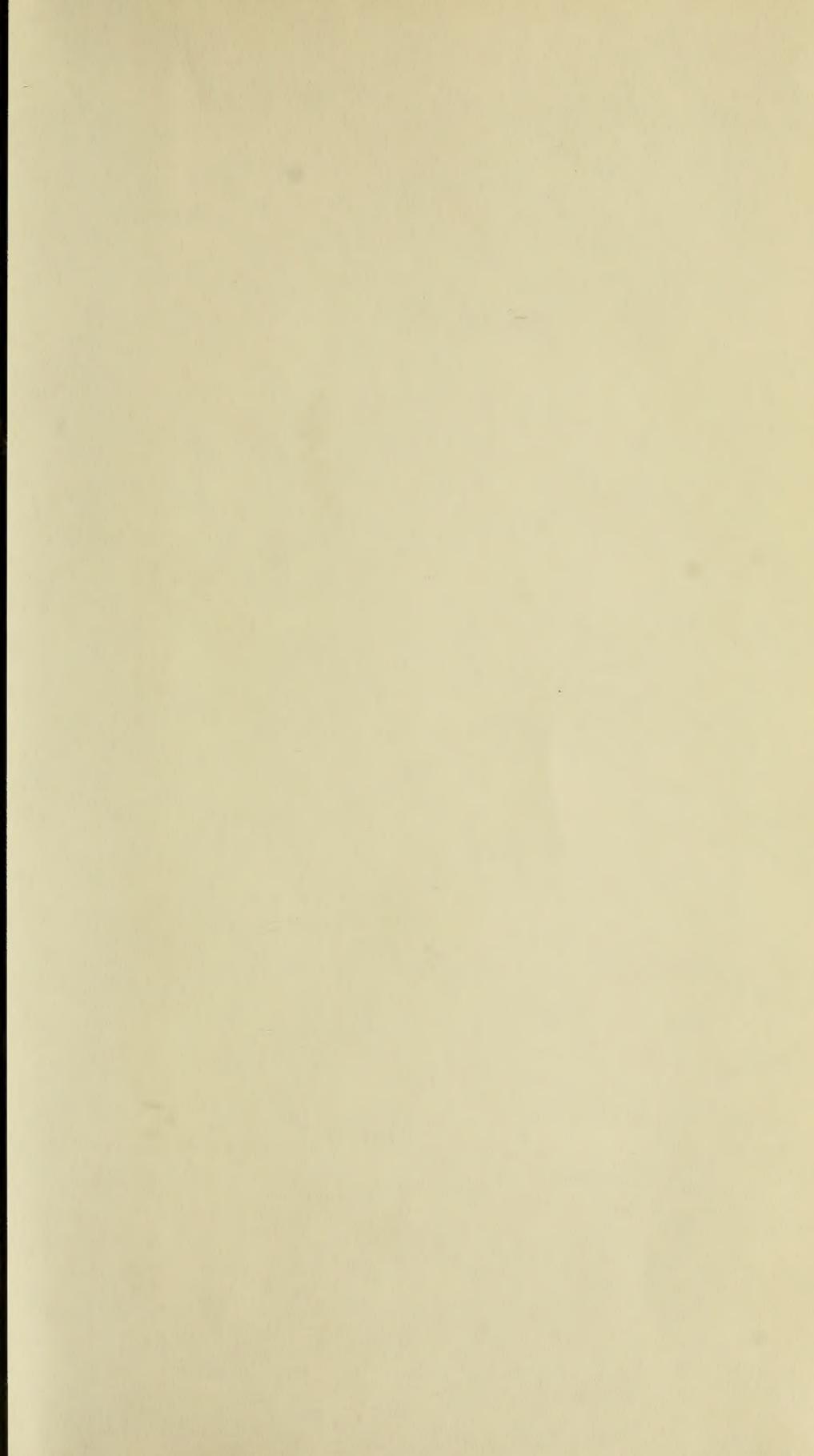
**H19** Classification of New York Series of Geologic Formations. 28p. 3c.

**Maps.** Merrill, F. J. H. Economic and Geologic Map of the State of New  
York; issued as part of Museum bulletin 15 and the 48th Museum Report,  
v. 1. 59x67 cm. 1894. Scale 14 miles to 1 inch. *Separate edition out of  
print.*  
— Geologic Map of New York. 1901. Scale 5 miles to 1 inch. *In atlas  
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